

# Psychological Bulletin

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THE  
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## I. GENERAL

110. BAADE, W., Zur Lehre von den psychischen Eigenschaften.  
*Z. f. Psychol.*, 1920, 85, 245-296.

Though it is nowhere even alluded to, the author seems to be attempting to salvage whatever was useful in the "faculty" psychology. No other English term, at least, so well translates *Eigenschaft* as Baade uses it. To be sure, the word is to be given a "functional rather than a morphological" interpretation. An *Eigenschaft* is a relatively permanent determination (*Bestimmtheit*) of the psychophysical organism. It is the "basis" of experiences, behavior and conduct.

There are two kinds of "characteristics" or faculties—general and circumscribed. General faculties underlie a group of conscious processes constituting a continuous manifold. Thus we have a general faculty or ability to see yellow; between two neighboring yellows a third can be interposed and so on indefinitely until we can no longer distinguish differences. (It must follow that we have a general "ability" to see, since visual qualities as a whole form a continuous manifold.) Other general abilities are the disposition to lively gesticulation, or to lively images, intelligence, energy, sentimentality.

Circumscribed faculties are those which exhaust their function in engendering either a single stereotyped experience or a very narrow group of experiences—though it may of course engender these over and over, so far as we can speak of identical experiences; though circumscribed, the faculties are none the less "relatively permanent." The best examples of circumscribed faculties are in the realm of ideation, where under the various names of Traces, Residua, and Dispositions, the doctrine of *Eigenschaften* has lately found a place (Or has held its own?). For terminological reasons, however, all these appellations are rejected. Both kinds of faculty may be complex or elementary, and the complex of one kind may

have, as factors, faculties of either sort. Thus one factor in a complex circumscribed idea-faculty may be the general faculty of having visual images.

The distinction between innate and acquired faculties nearly coincides with that of general and circumscribed, but until the relations are firmly established, we should maintain both sets of terms. Possible relations of circumscribed faculties to association are indicated. The tasks of *Eigenschaftslehre* are given a schematic but thoroughgoing treatment.

Baade believes that a complete psychology can be written without more than passing reference to somatic conditions. But where Watt, who is valiantly maintaining the same thesis, (*i.e.*, of "pure" psychology; not *Eigenschaftslehre*, save possibly by implication) puts this to the test by writing such psychology—compare, *e.g.*, his *Psychology of Sound*,—Baade develops at length what are literally the "empty" theoretic possibilities of such a psychology.

ENGLISH (Wellesley)

111. ROBACK, A. A., *The Scope and Genesis of Comparative Psychology*. *J. Phil., Psychol., etc.*, 1920, 17, 654-662.

The present state of affairs with reference to a definition of Comparative Psychology is a hopeful sign as it denotes a higher stage of development for it. Animal Psychology, being merely a part of the field, should not be mistaken for the whole of it. The designation Comparative Psychology, was in vogue, apparently, over fifty years ago. The tendency to apply it to the study of mind in other organisms than man seems to have come about more by accident than by "deliberate intent" (Yerkes). The cause of this is probably interest in evolutionistic doctrine though the transition may be hard to trace. Since the term method is too colorless a denomination comparative Psychology should not be so termed any more than experimental psychology, lest it lose its identity. The distinctive feature of this division of psychology is "comprehensiveness," it is the "entire province of psychology" covered in a special way.

GARTH (Texas)

112. BUERMAYER, L., *Professor Dewey's Analysis of Thought*. *J. Phil., Psychol., etc.*, 1920, 17, 673-681.

Psychology and logic are so closely interdependent that if one progresses the other should also. The purpose of the article is to



show how by some alteration of statements in "How We Think" there might be a more fruitful interaction between the two made possible.

GARTH (Texas)

113. SABIN, E. E., Giving Up the Ghost. *J. Phil., Psychol., etc.*, 1920, 17, 701-708.

There are still ghosts among us which almost pass without a challenge. The one enjoying immunity among psychologists is mind. It has "ways of knowing and ranges" which are wider than consciousness. However, men are beginning to declare that this ghost must make room for a description of consciousness as being a relationship maintained between a living organism and its world.

GARTH (Texas)

114. DUNLAP, K., The Social Need for Scientific Psychology. *Sci. Monthly*, 1920, 11, 502-517.

Truly scientific psychology—which is empirical, logically consistent, and based on working hypotheses experimentally tested—is called upon to defend itself against applied psychology of the rash sort, philosophical mysticism, occultism, behaviorism, and psychoanalytic mysticism. It has a responsibility to society in the scientific development of social psychology.

DASHIELL (North Carolina)

115. CATTELL, J. M., Practical Psychology. *Science*, 1921, 53, 30-35.

Those who believe in applied psychology still have to face and solve the problem of applying psychology to secure the support and advancement of psychology and of psychologists. The principles and methods which are being applied by psychologists in the development of business and industry should be similarly applied to psychological work.

RICH (Pittsburgh)

116. YERKES, R. M., The Relations of Psychology to Medicine. *Science*, 1921, 53, 106-111.

Although the object of a physician's concern, his patient, is both active and conscious, the sciences basic to medicine have failed to take account of the phenomena in human life which are designated

by the terms behavior, experience, and mind. Recent developments in the practical applications of psychology have demonstrated to the medical profession the need of systematic knowledge of human behavior and experience. The diverse developments of psychology should not mask the existence of a genuinely reliable and progressive science of behavior and experience, any more than do the numerous medical sects disguise the existence of a reliable body of knowledge concerning human form, function, and disease. There are five principal aspects of modern psychology: philosophical psychology, psychical research, introspective psychology, genetic psychology, and behaviorism. The general science of psychology is inclusive of what is valuable in all its branches. For psychology in its medical aspects, the term psychobiology is proposed. The lack of knowledge of psychobiology by medical men has resulted in retarded development of the treatment of mental diseases and the growth of numerous one-sided sects. Psychobiology should be taught in the medical school by means of a general course to acquaint students with its principal facts and laws, special advanced work for interested students, special work in abnormal and pathological behavior and experience, and research in mental hygiene. Psychopathology instead of the more inclusive psychobiology will not meet the general needs of medicine.

RICH (Pittsburgh)

117. DENTON, G. B., Early Psychological Theories of Herbert Spencer. *Amer. J. of Psychol.*, 1921, 32, 5-15. 22.

Spencer's early psychological theories, elaborated in *The Philosophy of Style* (1852), which is a revision of his essay *Force of Expression* (1844), were brought forth under the influence of the phrenologists, of whom he was at that time an heretical follower. He assumed the existence of minute and numerous faculties, which he apparently regarded as physiological entities as well as subjective entities and operations of the mind. These faculties corresponded very closely to those of phrenology. Each of these faculties became less capable as its activity was continued until fatigue or exhaustion set in. Attention was thought of by Spencer as a reservoir of physical energy at the service of mental life. Although the concept of attention played a dominant part in *The Philosophy of Style*, it does not appear in an important position in Spencer's later works. The concepts of fatigue and attention appear to have come from the phrenologists. In spite of the in-

fluence of phrenology, the assumptions of sensationalism and associationism, derived from British psychology, also appear in *The Philosophy of Style*.

RICH (Pittsburgh)

118. TITCHENER, E. B., Brentano and Wundt: Empirical and Experimental Psychology. *Amer. J. of Psychol.*, 1921, 32, 108-120.

Brentano and Wundt published in 1874 two books which were of first rate importance for the development of modern psychology, but which showed the greatest divergence. Brentano came to his task from a study of theology and the history of philosophy; Wundt from the physiological laboratory. Yet psychology dominated all their further thinking. There is resemblance between the two systems in the position ascribed to psychology and the subject-matter of psychology, but a striking difference in emphasis. Brentano's method of procedure is to discuss arguments and opinions, until by a comparison of pros and cons a reasonable conclusion reached, rarely appealing to the facts of observation, and making his own doctrine follow of necessity from the discussion. Wundt's book, on the contrary, abounds in facts of observation, argument appearing where the facts are scanty and must be eked out by generous interpretation and hypothesis. Looking at the two systems from the inside, one finds that Brentano accepts from the past whatever will stand the test of his criticism, and organizes old truth and new into a system meant to last as long as psychology shall be studied; Wundt turns away from the past and plunges into the work of the laboratories, producing a psychology as much encyclopedic as a system, and that bears on its face the need for continual revision. Brentano has all the advantage that comes with historical continuity. But Wundt holds out the promise of an experimental method. The real significance of the *Physiological Psychology* is that it speaks the language of science, in the rigorous sense of that word, and it promises us in this sense a science of psychology.

RICH (Pittsburgh)

119. HENRI, V., *Analyse psychologique du principe de relativité. J. de psychol.*, 1920, 17, 743-762.

A paper read at a meeting of the Société de Psychologie held on April 29, 1920. The paper contains an exposition of the principle of

relativity and other principles of modern physics. Our notions of time and space as absolute are ingrained in our thought and language. Our notions of causation are interwoven with these concepts of time and space. The modern physicist tells us that the properties of space may vary, that the value of  $\pi$  is not a constant independent of other phenomena, that space is non-Euclidean, that the measure of time depends on the position of the observer, etc. The results of modern physics occasion a complete subversion of all our ideas and habits of language. Psychologists must analyze the different words used to express these notions, and revise language in such a way that the new principles may be more readily comprehended. In this way psychologists may aid in establishing the principles of knowledge of the universe.

BRIGHAM (Princeton)

120. GREGORY, J. C., "Do We Know Other Minds Mediatly or Immediately." *Mind*, 1920, N.S., 29, 446-457.

Mr. Gregory, in answer to Mrs. Duddington's "Our Knowledge of Other Minds" advances the usual arguments for physical mediation of our knowledge, and then takes up the criticisms of that view. He says that throughout Mrs. Duddington mistakes simple association phenomena for elaborate analogical inference. Furthermore, because the *idea* of other self comes first is no reason to deduce that the priority of its explicit affirmation intimates a priority of implicit apprehension. In knowing other minds we discover what is in ourselves, and our certainty in the inference to other minds is justified by our certainty that we do love, hate, think, and reason. There is nothing miraculous in a child's distinction between living and non-living beings, and it is not necessary to suppose that it perceives from the start *the life* which sets off the mother from the perambulator. Mrs. Duddington is very near quibbling when she says that no introspection will detect the slightest time-interval between our perception of a person's tears . . . and our awareness of his grief. "The mind has no apparent organs for direct apprehension of other minds. Minds do communicate *via* bodily actions. Community of nature provides a basis for certainty of inference when one mind knows another. Criticism cannot discover an incompetency in consciousness to realize from association between its own processes and . . . actions that behind other actions there are consciousnesses like unto itself."

ORDORFF (Wellesley)



121. SELLARS, R. W., Evolutionary Naturalism and the Mind Body Problem. *Monist*, 1920, 30, 567-598.

The mind-body problem not being specific in the experimental sense is a philosophical adventure. Traditional solutions are compromises between old metaphysical systems and empirical facts. Dualistic theories, including both interactionism and parallelism, have prospered for epistemological, logical, and methodological reasons, viz., (1) The assumption that the empirical contrast between consciousness and objects is ontological; (2) The difference between the categories of consciousness and the physical world; (3) The evolution of a pragmatic dualism from the data of the sciences (pp. 576-7).

Recent tendencies in science, viz., (1) Critical limitation of the laws of mechanics; (2) Recognition of the autonomy of the several sciences; (3) The conception of creative synthesis in nature; and (4) Behaviorism, modify our view of genetic continuity so as to emphasize novelty as well as sameness. Mechanism and vitalism thus become inappropriate solutions. We are led to an evolutionary naturalism for which "the living organism when properly and adequately conceived includes consciousness and is the sole source of that differential behavior which distinguishes it from less integrated bodies" (p. 578). Mind becomes a physical category. It is the brain in its integrative capacity (p. 581). The mind-body problem is eliminated while the nature and origin of non-mechanical behavior become a specific problem susceptible of scientific approach. The epistemological situation is clarified. Consciousness is not energy, but performs a function, since it is at once the expression and the instrument of cerebral coördination, although it is not the whole of mind. Psychical entities need not be objects of awareness in order to exist, so that unconscious consciousness is no contradiction.

#### DISERENS (Cincinnati)

122. Moss, S., A Mechanic on the Mechanism of the Brain. *Monist*, 1921, 31, 58-103.

Mr. Moss presents a radically mechanistic interpretation of the nature of the brain and of mental processes. Differences in scale or degree of natural phenomena do not necessarily mean differences in kind, so that a consistent mechanistic explanation of nature, life and mind is possible. Such a view is acceptable in proportion to one's acquaintance with machines. On this basis the author describes the psychological categories in strictly mechanical terms.

Consciousness is defined as a mechanical or physiochemical reaction of brain cells while the nature of mental processes as well as overt forms of behavior is illustrated by striking analogies from modern mechanical devices. Thus the conditions of memory are analogous to a phonographic record or photographic plate. Association has its analogue in a type-setting machine, while that of impulse is a player-piano or relay. Reasoning is said to be always inductive. Beliefs and truths are mechanical adjustments between organism and environment. A diagram at the close of the article epitomizes the author's conceptions.

DISERENS (Cincinnati)

123. WIRTH, W., Unserem grossen Lehrer Wilhelm Wundt in unauslöschlicher Dankbarkeit zum Gedächtnis! *Arch. f. d. ges. Psycho.*, 40, 1920, pp. i-xvi.

Wirth writes a sincere tribute to the great teacher. Two pictures are included.

ENGLISH (Wellesley)

## 2. NERVOUS SYSTEM

124. HERRICK, C. J., A Sketch of the Origin of the Cerebral Hemispheres. 17 figures. *J. Comp. Neurol.*, 1921, 32, 429-454.

This article contains a sketch of the evolutionary development of the cerebral hemispheres, written from a functional viewpoint and from a study of extinct as well as living types, graded in their complexity. The author concludes that the terminal portion of the neural tube early in vertebrate evolution gave rise to two pairs of lateral evaginations the one correlated with smell and the other with sight. Increasingly complex correlations of other receptors with smell involved the elaboration of separate centers in the fore-brain for each of these correlated reflex patterns, different in each species of animal according to its mode of life. Thus there then appeared solid cerebral masses in the lateral walls of the hemispheres and these masses were identified with the predominance in animal behavior of stable, heritable reflex and instinctive behavior patterns. Further brain specialization in the direction of solid masses of adjacent ganglia precluded the possibility of more labile and individually modifiable sorts of behavior, such as were demanded by conditions of life on land, and such as are charac-

terized by rapid learning through individual experience and by intelligence in general. To provide sufficient correlations there developed widely evaginated thin-walled hemispheres capable of indefinite expansion without undue thickening of the walls, in which numerous functionally distinct fields were well separated in space and in free intercommunication by means of almost unlimited systems of association fibers. Hence the development of the cerebral cortex is correlated with a development from more or less stereotyped patterns of response to highly modifiable and complex patterns.

WHEELER (Oregon)

125. BISHOP, M., The Nervous System of a Two-headed Pig Embryo. 20 figures. *J. Comp. Neurol.*, 1921, 32, 379-428.

After a brief and only a general discussion of the anatomical and behavior studies in the field of teratology the author describes in great detail the gross and minute nerve structures in a 22 mm. pig embryo. Below the level of the shoulders the embryo appeared externally as a single individual but the head region was partly double. The cerebral hemispheres, diencephalon and mesencephalon were normal for each of the two heads, diverging rostrally from the rhombencephalon. Conjoined structures consisted of the rhombencephalon, fourth ventricle, several basal ganglia and median cranial nerves together with certain non-nervous structures such as the median submaxillary and sublingual glands, the cartilages of the external, middle and internal ears of the median head region, and some of the cheek muscles. The nervous anatomy throughout the conjoined regions clearly indicated that normal morphological and neurological patterns had developed wherever cramped spacial relations rendered normality or near-normality possible. The spinal cord was incompletely double, giving off laterally paired spinal nerves in normal manner but along the ventral surface in the cervical region was a neural ridge which gave off short series of conjoined spinal nerves, unganglionated and unbranched. Bilaterality was strikingly apparent in all of the structures of the doubled region; this and all anatomical evidence pointed to a merely regulatory adjustment in a healthy and orderly developed though teratological specimen. Included are several elaborate drawings and a bibliography of about 75 titles.

WHEELER (Oregon)

## 3. SENSATION AND PERCEPTION

126. KATZ, D., Psychologische Versuche mit Amputierten. *Z. f. Psychol.*, 1920, 85, 83-117.

The illusions or better hallucinations of the missing member are described from a careful study of over 100 cases of one-arm amputation. In most respects, Katz's findings agree with those of previous students. The diminution in size of the phantom-member experienced by practically all of his cases, he ascribes to the loss of peripheral excitation. For our normal perception of the size of a member (when vision is ruled out, and all of the subjects "felt" rather than "saw" the missing limb) is due to a sort of sensory "tension" built up through experience out of all our tactile and kinæsthetic sensations from that member. In general, Katz considers that a study of the illusions justifies the conclusion that they depend in every case for their existence upon peripheral excitation, but that the form and distinctive character of the illusions is due to some central factor. In the case of the illusions of movement, he thus takes a sort of middle ground between Wundt's sensations of innervation and some of his opponents (*e.g.*, Müller and Schumann) who attempt to explain them entirely upon peripheral grounds.

An area on the side of the stump (not on the end) was compared with a corresponding area on the uninjured arm. The limen for touch and for two-point discrimination was lower on the stump. Localization was poorer, the constant error being towards the shoulder. Articles placed on the stump were more readily recognized than on the normal arm. All of these are considered phenomena of attention.

The most interesting experiments are with lifted weights. Fechner, and more especially von Frey had ascribed certain departures from Weber's law to the weight of the arm itself, which must be reckoned with just as if it were a foreign body. Katz finds that though there are differences in discrimination, they are not nearly large enough to meet the demands of this theory. (The approximate weight of the missing arm is ingeniously calculated.) On the other hand, the entire set of facts seem to be satisfactorily accounted for as phenomena of adjustment (*Einstellung*).

The Sauerbruch preparation of the stump makes possible the attachment of the muscles directly to artificial hands for voluntary movements. A consequence of this operation is that muscles



hitherto anatomically bound together are rendered independent. It turns out that patients can innervate antagonistic muscles in complete independence of each other. Sensory discrimination of weights lifted by one of these sets of muscles directly—say by the biceps or triceps—is practically the same as for the uninjured arm and roughly follows Weber's law. As the experiments were generally made on the occasion of the patients' first use of their muscles after the operation, we have discrimination uninfluenced by experience in any direct and immediate sense. Yet the subjects found the discrimination wholly like the normal process. Katz concludes that the estimation of weights depends upon the weight that reaches the muscles and tendons of the upper arm, as transmitted by the bony lever-system. This seems to be confirmed when it appears that there is a very noticeable underestimation of weights lifted by the biceps directly compared with weights lifted by the hand. Sharply in contrast to the underestimation of weights by the free biceps is the much lowered strength—or lifting efficiency—A typical subject cannot lift above 15 kg. yet this seems equal to a weight of 2.4 kg. on the hand. In other words, the weakening of the muscles does not affect the sensory discrimination. Finally the lifting of the 15 kg. was accompanied by all objective signs and by intense subjective feeling of effort. But there was of course no appreciable effort in lifting the equal appearing 2.4 kg. We must conclude, therefore, that the experience of effort plays no decisive part in our estimation of lifted weights.

ENGLISH (Wellesley)

127. SCHUMANN, F., Die Repräsentation des leeren Raumes im Bewusstsein. Eine neue Empfindung. (Untersuchungen über die psychologischen Grundproblem der Tiefenwahrnehmung.) *Z. f. Psychol.*, 1920, 85, 224-244.

In addition to the colors and to the black-grey-white series, Schumann believes we must recognize a new visual sensation or series of visual sensations. He calls it the glass-sensation, but it is variously described by the subjects as like "clear mountain water," "perfectly clear and transparent ice," "frozen air," or "colorless between-medium." The new sensation is held to be qualitatively distinct from the grey series. It may mix with it, to be sure, just as the true colors may. The glass sensation also mixes with the true colors. As with the familiar visual qualities, the transitions form an uninterrupted continuity. The different kinds of glass-sensation differ in "compactness."

These sensations are most readily seen in the stereoscope lying between objects. But under favorable conditions they may be seen in everyday vision. That the observers themselves unanimously and spontaneously used the expression "a glassy impression" indicates that the sensation is to be found in looking at glass. But with very clear glass (or a very good mirror) we are not aware of the glass until we see little particles of dust or the like upon the surface. Immediately upon the perception of these, however, we are conscious of a definite transparent surface. This is not a judgment; but a direct sensory datum. Similar conditions favor the same sort of impression in the observation of empty space. Indeed, it is the sensing of this glass-sensation in its least compact form that conditions our perception of empty space. Like the absolute sensory impression of size, which underlies so many of our judgments and percepts, but is usually in the margin of consciousness, so with glass-sensation. Ordinary we are simply aware of empty space, but under certain conditions, this impression moves from the margin to the focus and we have the glass-sensation as such.

ENGLISH (Wellesley)

128. RÉVÉSZ, G., Prüfung der Musikalität. *Z. f. Psychol.*, 1920, 85, 163-209.

Nine tests were tried with sixty partially selected school children (average age 10.6 years, limits not stated) as follows: (1) Monotonic Rhythm; (2) Melodic Rhythm; (3) Absolute Pitch; (4) Octave Recognition (or Transposition); (5) Relative Pitch; (6) Analysis of a Dichord; (7) Analysis of other Chords; (8) Comprehension and Vocal Repetition of Melody; (9) Piano playing by Ear. Octave Transposition proved too easy, since all but the absolutely unmusical succeeded at once. Selecting the eighth test "on methodical grounds" as the most characteristic of musicality, the author calculates the Spearman coefficients of correlation with the remaining tests. As might have been anticipated, the correlations were quite high except in the case of rhythm, and in the case of the analysis of chords of more than two tones. The four tests best adapted to the determination of musicality are: absolute ear for tone height, vocal transposition of an interval (*i.e.*, absolute and relative pitch), playing by ear a well-known melody, and repetition of a new melody. Musical instruction apparently influences the test results little. Age does influence results but probably only as a result of increasing maturity. There

were no sex differences. Révész concludes that musicality is an innate ability, wide-spread, but by no means universal. It exists in various degrees. The relation of musicality to the various tests is analogous to that between general intelligence and its tests, i.e., it cannot be directly measured but may be estimated by means of tests having a high correlation with it.

ENGLISH (Wellesley)

129. KLEMM, O., Untersuchungen über die Lokalisation von Schallreizen. 4. Mitteilung. Über den Einfluss des binaural Zeitunterschiedes auf die Lokalisation. *Arch. f. d. ges. Psychol.*, 1920, 40, 117-146.

A long and careful series of experiments (Would that one could say that they are at all points carefully described!) are presented to support the thesis that the basis of the localization of a sound is the difference in the time of stimulation of the two ears. Klemm abundantly proves that the fused sound resulting from nearly simultaneous stimuli of double source is localized towards the first side even when the interval is as small as  $1/100 \sigma$ . That such a minute interval can be effective for perception, he well calls *erstaunlich*, and points out the necessity in other fields of control of such minute time differences. Ingenious experiments and calculations show that the angular deviation from the median plane, necessary to asymmetrical localization of a sound from a single source, produces just the difference in time of stimulation of the two ears which, with a given subject, is effective for localization under artificial conditions with two sources.

The minuteness of the differences leads one to suspect that they are not directly the basis of the localization consciousness but have associated with them some effect which constitutes such a basis. Differences of intensity are known to condition localization; may it not be that the time differences, by interference of phase of the sound waves transmitted through the skull, should set up differences of intensity? Such is actually the case, but the intensive differences are even more inconceivably minute than those of time. Klemm believes that the interval directly conditions the localization consciousness. He does not suggest the normal relation of differences of intensity to localization.

We need not assume any single "position" in the brain or elsewhere that is differentially affected by simultaneous and successive excitations. The sound stimulus affects two different "positions"

of the psychophysical organism, to wit, the two ears. Localization is a sort of frozen movement. The analog of Talbot's Law is to be found; just as the intensity of two quickly succeeding stimuli is their mean intensity, so the localization is a sort of mean of the two positions given in the two ears.

With a psychologist of Klemm's standing, it is certainly to be assumed that all the cautions customary in exact experimenting should be observed. Hence one is not inclined at first to criticize the lack detailed description of the *Versuchsanordnung*, though the apparatus and some of the procedure are described very carefully. But we learn, with some surprise, from a casual reference that the observers worked with their eyes open all the time; the abstractor had supposed that at least in experiments where the two sources of sound—telephone receivers—were at varying distances, the O would work with closed eyes. Exact tables are given which show the data used in determining certain thresholds. But in some of the later experiments, we are given only summary results. When we learn that many hundreds of results were rejected, we cannot wholly suppress curiosity about them.

The abstractor would explicitly deny any idea that Prof. Klemm has in any way "doctored" his results. And there is ample evidence that the experiments were on the whole very carefully performed. But what is definitely implied is that in places, and even at some critical places, the experiments are not described in sufficient detail. If as Klemm points out, his results show that we must hereafter be more careful about minute time factors, it is equally true that we must be more careful about other factors such as suggestion. One does not set one's results above suspicion unless one describes the results in such detail as to show how such conditions are controlled.

ENGLISH (Wellesley)

130. SCHERRER, E., Das Problem der anschaulichen Gestaltung in der Lyrik. *Arch. f. d. ges. Psychol.*, 1920, 40, 147-192.

Poets and literary critics are agreed that a lyric poet must not preach but must depict *anschaulich*. What is this *Anschaulichkeit*? It is not conditioned by the choice of words according to their meanings. One may avoid preachment by sticking close to concrete situations and may use vividly picturesque words, without in the least writing poetry. Nor is it any part of the poet's duty to arouse in his readers visual images. This is the function of description for which prose is the proper medium.



Although one does not write poetry by using "poetic" words, the proper choice of words is the core of the matter. Read an *anschaulich* passage and change the words for their nearest synonyms; the *Anschaulichkeit* vanishes. But read a bit of poetry prosaically and the same result follows. Or inhibit all internal speech or motor-verbal imagery. The most bejeweled passage becomes prose.

There are two sources of this *Anschaulichkeit*, working in the closest coöperation. The rhythm (including both accent and length of syllable) and melody of the verse arouses in us a kinæsthetic-organic perception of movement which must conform to the mood the poet desires to project. Combined with this is the effect of the sound-form: there is a sound-form in words analogous to that of music. Various sounds have associations which are practically universal in any cultural group: certain sounds are bright or dark, thin or voluminous, light or massive, etc. (Incidentally, he asserts that to ask how much more voluminous one tone is than another would be absurd; but Watt and Ogden have asked that question lately and Gilbert Rich has returned an experimental answer; shall we never learn to beware the general negative?) These sound effects combine with the rhythm in effecting the feeling of movement. The details of this relation are worked out interestingly in some detail. The *Anschaulichkeit* of lyric poetry is due to the kinæsthetic-organic perception aroused by the acoustic-motor speech-form. The last is thus a sort of mirror of consciousness.

ENGLISH (Wellesley)

131. LIPS, J. E., Die gleichzeitige Vergleichung zweier Strecken mit einer dritten nach dem Augenmass. *Arch. f. d. ges. Psychol.*, 1920, 40, 193-267.

The principal experiments consisted in the comparison of two simultaneously presented lines with a third following. The two standard stimulus lines ranged from 160 to 170 mm. in different series. The third line was used as a comparison stimulus according to the method of constant stimuli. The lines were parallel and vertical, the third coming in between the spaces just occupied by the first two.

If the two standard stimuli differ from each other by 2 mm. or more, false judgments as to their relationship to each other are not implied in the judgments comparing them to the third stimulus. True such "false" judgments would be infrequent in direct com-

parisons of  $r_1 - r_3$  and  $r_2 - r_3$ , but their complete exclusion points to the influence of the third relation,  $r_1 - r_2$ , upon the other two.

The double judgment is on the average slightly more accurate than the single judgment. This is probably due to the stimulation afforded by a more complex task, which yet can be attended to in a unitary way. Where single judgments are required, the scatter is less, but the region within which judgments of equality and uncertainty prevail is slightly larger. (There seems to be some influence unfavorably affecting the number of judgments of equality in the double task experiments.)

Keeping conditions as comparable as possible, the difference limen of the single judgment of lines successively presented was found to coincide with that of previous experiments. But when the two standard lines were used as standard and comparison stimuli the limen for simultaneous comparison was greatly lower than any hitherto reported. The author suggests that in the other experiments, comparison had really been made of the endpoints of the lines, not of lengths, while in his own experiments the conditions assured genuine comparison of magnitudes.

Objective equality between the two standard stimuli facilitated comparison with the third, especially lessening the scatter, *in procedure without knowledge only; the reverse was the case if the subject worked with knowledge of this equality.*

Both of the standard stimuli were underestimated, but by a sort of contrast, the smaller suffered more. The author believes that this is due to the succession of *SR* and *CR* as well as to the side by side position of the *SR* in comparison with the intermediate position of the *CR*.

In cases where the *CR* was judged to lie between the two *SR* in length, there was slight negative tendency. Thus the mean limen lies somewhat nearer the lower than the upper limiting limen.

The theoretical discussion is based on Wirth's psychophysical position.

ENGLISH (Wellesley)

132. CAMPBELL, I. G., Some Problems in Regard to Alimentary Sensitivity. *Amer. J. of Psychol.*, 1921, 32, 26-37.

The writer reports a number of observations which she made during two weeks of duodenal feeding. Hunger was found to occur only before feedings, even though the stomach was continuously

empty except for small doses of medicine. When experienced, hunger included a feeling of "emptiness" and at times a consciousness of weakness. Appetite came only with the sight of food. Feedings always resulted in a feeling of "fulness" localized high up in the abdomen. It was similar to the consciousness of gas in the intestines, and was often akin to nausea. Rough observations of thermal sensitivity verified the fact that the esophagus and stomach are sensitive to thermal stimuli and indicated that the duodenum is sensitive to cold and perhaps to warmth.

RICH (Pittsburgh)

#### 4. FEELING AND EMOTION

133. PATON, S., *The Emotional Unrest, Its Causes and Treatment. Med. Rec.*, 1919 (Nov. 15), pp. 11.

Much of the present emotional world unrest appears due to two causes. First, an exaggeration of previously existing and well-recognized types of emotional instability; second, a definite psychosis with specific symptoms, markedly epidemic, affecting persons possessing intellectual ability. In the advance of civilization, means have been supplied not only for the diffusion of useful knowledge but also for permitting rapid extension of information apt to cause in an unstable person a serious dissociation of the personality. "Signs of sanity" are enumerated as follows: Joy in living; pleasure in work; no desire "to varnish the fair face of truth with the pestilent cosmetic rhetoric"; temperate in wishful-thinking; no apologies for self-insufficiency; prompt action in emergency; behavior controlled by normal and not supernormal ideals. The personality of the psychoneurotic intellectual is characterized as follows: self-insufficiency; mental depression or unusual exhilaration; dodges critical situations; artificially reënforced ego; substitution of platitude for concrete terms; transfer interest to affairs of other people; prefers discussion of class problems to personal problems; cultivates two distinct personalities, one for friends the other for enemies; believes in selective class salvation; superidealism. Temporary relief from personal inadequacy is found by reiterating such phrases as "internationalism," "social uplift" and others that are equally unsuggestive of the sting of personal defeat. There again appears the medieval doctrine of selective salvation; first it is the upper, then the lower and now the middle class that is especially appointed to be saved. The balance beam in the personality is to a very

large extent the normal feeling of sufficiency and unless it is present the integration of various tendencies and interests is not longer effective and reason cannot operate except at a great disadvantage.

MURPHY (Boston Psychopathic)

134. TROLAND, L. T., A System For Explaining Affective Phenomena. *J. of Abnor. Psychol.*, 1920, 14, 376-387.

The subject of this abstract is a most concentrated outline of a speculative psychophysiological view of affective phenomena. In it there is a vast amount of suggestive material so compressed that the author's methods of obtaining his hypotheses are sometimes difficult to follow. Affective intensity is defined as an "algebraic quantity, positive magnitudes of which are to be identified with the degrees of pleasantness of conscious states," while negative magnitudes represent the degrees of unpleasantness of such states. The fundamental hypothesis, formed in accordance with the theory of psychophysical parallelism, is, that affective intensity is proportional to the average rate of change of conductance in the synapses. Increasing conductance implies pleasantness, while decreasing conductance involves unpleasantness. Simple exercise usually tends to open up the synapses, due to the action of afferent nerve currents upon the cortex. Not all afferent currents, however, act in the same manner. The activity of nociceptors brings about a decrease in cortical conductance, whereas the stimulation of beneceptors increases it. The activity of these two kinds of receptors is designated as *retroflex action*. Primitively, all lines of conduction were of equal conductance, but the effect of past pleasure and pain alters the conductance of certain lines during the life of the individual. The author defines "happiness" as the total amount of affection experienced during a given period of time, minus the amount of negative affection experienced during this time; or, the increments of conductance minus the decrements.

The record left in the cortex by retroflex action involves its permanent association with the causative retroflex mechanism. Then, according to Pavlov's Law, "if a certain form of response is once inhibited because of the fact that it causes stimulation of the pain nerves, when the original stimulus to this reaction again appears it will re-arouse the retroflex process which was originally aroused only by pain stimulation." This is a *conditioned retroflex*. Such associations of stimuli and retroflex mechanisms correspond on the physiological side with the Freudian "complexes." But they need



not be founded only on sex, but on any primitive retroflex tendency. Gustatory, hunger, olfactory and temperature complexes are possible. When a single stimulus becomes conditional simultaneously to both a positive and negative tendency, conflict results. If one wins ascendancy the other is repressed.

Turning to instincts, he states that the completely hereditary modes of response are carried through the synapses in the spinal cord, or other nerve centers below the cerebrum. The more complicated modes of response, which are commonly called instinctive, he believes to be complexes developed by experience in connection with the retroflex functions. The experience accompanying a sufficiently powerful arousal of a retroflex function is an emotion; the unconditioned retroflexes are primary emotions, and those with conditional arousals, which include nearly all those of the adult, are secondary or derived.

HINCKS (Radcliffe)

135. YOUNG, P. T., Pleasantness and Unpleasantness in Relation to Organic Response. *Amer. J. of Psychol.*, 1921, 32, 38-53.

The subjects in this experiment were given simple, single stimuli of a nature calculated to evoke feelings, and were instructed to report all muscular tendencies and organic sensations as well as the affective side of the experience. In 38 per cent. of the cases in which the stimulus was reported as either pleasant or unpleasant, no organic response was noted, showing that there is no organic-kinæsthetic *sine qua non* of affection. When organic or kinæsthetic processes were reported, they bore no fixed relationship to the affections. A general correlation tendency between muscular strain and unpleasantness and muscular relaxation and pleasantness was, however, noted. Unpleasantness was associated with a positive bodily response, while in pleasantness the bodily response was relatively slight. The traditional relation between pleasantness and seeking movements found little support, while that between unpleasantness and withdrawal was confirmed.

RICH (Pittsburgh)

136. YOKOYAMA, M., Affective Tendency as Conditioned by Color and Form. *Amer. J. of Psychol.*, 1921, 32, 81-107.

Three series of stimuli, colored squares, black forms, and colored forms, were presented by the method of paired comparisons. The observers were instructed to judge passively the affective value

of, first, the color of the colored squares and the form of the black forms; second, the color of the colored forms; third, the form of the colored forms; fourth, the color-form of the colored forms; and fifth, as a check, the color of the colored squares and the form of the black forms. The affective judgments showed considerable variability of attitude. The preferential orders of colors and forms were relatively permanent during a period extending over five months. When the colored forms were presented in some particular form for the affective comparison of colors only, the form had practically no influence upon the preferential orders of the colors, and vice-versa. As far as relative pleasantness is concerned, color and form were, in the main, mutually independent in conditioning the affective tendency of color-form, even though simultaneously operative, but the dominance of color or form in determining this tendency depended directly upon the intensity of its pleasantness or unpleasantness, indicating that the affective tendency of color-form varies approximately with the algebraic sum of the affective tendencies of color and form.

RICH (Pittsburgh)

137. KAISER, I. R., The Psychology of the Thrill. *Ped. Sem.*, 1920, 27, 243-280.

The fundamental motivation of human behavior is expressed in terms of "thrill craving"—the most ancient and fundamental of all instincts; and this in turn as being an expression of bodily tone, a seeking to attain a sense of physiological well-being. Thrills are divided descriptively into four types. The varieties of instinctive action and of emotional states of mind, as also the functions of attention, interest, habit, and will, are all only different manifestations of thrill.

DASHIELL (North Carolina)

138. LINK, H. C., Emotions and Instincts. *Amer. J. of Psychol.*, 1921, 32, 134-144.

Instincts have for a long time been identified with emotions, giving rise to the question as to the character of this identity. The James-Lange theory insisted upon the priority of the instinctive response, but later experimental works point to the concomitant occurrence of bodily changes and emotion. McDougall identified instincts and emotions by making them both dependent upon the same bodily mechanism. Objective studies with animals have

failed to yield conclusive results because of the confusion that results from attempts to interpret into the bodily actions the emotions which introspection has named. The attempt to define and classify emotions through introspection can never become other than purely arbitrary and conjectural. The attempt to pick out primary instincts and emotions upon which to base the superstructure of social actions is likewise purely arbitrary. If the emotions are assumed to be fundamental fixed in the organism, it is not logically possible to explain the process by which these conflicting forces are unified, nor how the emotions are organized into sentiments stronger than the emotions themselves, which shall henceforth determine the manner in which those emotions shall express themselves. Pleasure and unpleasantness in a sense unify the various emotions by giving them a common character. But pleasure and unpleasantness must be regarded as being equally as dynamic as the emotions.

RICH (Pittsburgh)

139. WASHBURN, M. F., HAIGHT, D., and REGENSBURG, J., The Relation of the Pleasantness of Color Combinations to that of the Colors Seen Singly. (Studies from the Psychological Laboratory of Vassar College. XLI.) *Amer. J. of Psychol.*, 1921, 32, 145-146.

Colors were presented both singly and in pairs to observers who judged them on an affective scale of 7 steps. The total affective value of the individual colors making up the combinations correlated plus .74 with the affective value of the combinations. This fact can hardly be taken for a manifestation of the simple summation of feelings. In 30 per cent. of the cases where both component colors were agreeable the combinations were disagreeable; and in 15 per cent. of the combinations of two disagreeable colors were judged as agreeable. The unpleasantness or pleasantness of a color combination is derived not merely from the summation of the affective tones of its components, but from another factor dependent on the combination itself.

RICH (Pittsburgh)

140. SHAND, A. F., Of Impulse, Emotion and Instinct. *Proc. Arist. Soc.*, 1920, 20, 79-88.

Impulses and emotions, though composed of the same elements (conative, affective and cognitive), the writer maintains, are dif-

ferent "facts of mind." Specifically, emotions are more comprehensive than impulses and contain them. Impulses are also parts of the systems of instincts and condition their operation. From the standpoint of function the ends of emotion and impulse are different: that of the former being more general and conditioning a variability of behavior, while that of the latter is specific and invariable. An emotion tends to be aroused when an instinct with its impulse is not working successfully. Part of human instinctive behavior is inherited and part acquired. It is the inherited part which is invariable. The writer rejects McDougall's theory that the principal instincts, when in operation, elicit an emotion more or less distinctive of them. This theory, he claims, seems to be based on a confusion between emotions and impulses.

SINCLAIR (Smith)

## 5. MOTOR PHENOMENA AND ACTION

141. FOUCALT, M., Extension de la loi de l'exercice dans le travail mental. *J. de psychol.*, 1920, 17, 673-683.

This article is an extension of experimental work previously reported (*Études sur l'exercice dans le travail mental spécialement dans le travail d'addition*, *L'Année Psychol.*, 1914, 20, 97-125). The experiments consisted of (1) short periods (two minutes) of mental work in addition (Kraepelin tables); (2) periods of mental work in memorizing 12 French words, with rest periods intervening; (3) periods of mental work in reading lists of 30 French words and lists of 30 nonsense words, with rest periods intervening. The author assumes that the factor of fatigue has been eliminated by the rest periods. The author assumes that other variable factors are eliminated by combining the results of all subjects. The results obtained are compared with those calculated from the formula

$$ax + by + c = xy.$$

On the basis of these experiments and those previously reported, the author concludes that the law of exercise in all forms of mental work may be expressed by an hyperbola.

BRIGHAM (Princeton)



## 6. ATTENTION, MEMORY AND THOUGHT

142. RUSSELL, B., The Meaning of "Meaning." (*Symposium*)  
*Mind*, 1920, N.S. 29, 398-404.

This constitutes chiefly a reply to some of Schiller's criticisms of an earlier article by Russell on the same topic. But the doctrine of meaning is restated, or in the opinion of another critic at the symposium, changed. Meaning (in this article at least) is a characteristic of signs. A sign is a sensation or image which causes action appropriate, not to itself, but to something else with which they are associated. We may or may not be conscious of the operation of the sign. As we are here essentially in the domain of habit, the intervention of consciousness marks an imperfectly established habit.

ENGLISH (Wellesley)

143. JOACHIM, H. H., The Meaning of "Meaning." (*Symposium*)  
*Mind*, 1920, N.S. 29, 404-414.

This contribution to the symposium is purely a criticism of the view (or views) of Bertrand Russell. Mr. Joachim evidently has a good time in pointing out the numerous verbal inconsistencies in Russell's statements of his position. As an exercise in dialectics, it is excellent, and (on p. 412) it achieves one really good joke. The psychologically trained reader, however, cannot help wondering what difference it makes whether Russell has committed various enormities in his statement. He has at least outlined a position, a theory.

ENGLISH (Wellesley)

144. SCHILLER, F. C. S., The Meaning of "Meaning." (*Symposium*) *Mind*, 1920, N.S. 29, 385-397.

Schiller's contribution is a combination of logic and psychology not to be wholly ignored by psychologists even though his reflections may seem to originate from a professorial armchair. Traditional psychology (or philosophy), he says, is helpless in the face of such a problem as meaning, because it has followed Plato's lead in considering as real only what can be *contemplated*. It is thus unable to study the self and "the all-pervasive realities which condition all objects, and form, as it were, the atmosphere which renders them visible and the light which illumines them."

Meaning is one of these realities conditioning all objects. It is neither an inherent part of objects, not a static relation between objects, but essentially an *activity* or attitude taken up towards objects by a subject. When once we grasp this voluntaristic conception of meaning, we shall cease to relegate it to the psychic 'fringe'; meaning is progressive, not transitory. Indeed it is meaning which is stable, the "stage on which the various sorts of 'objects' make their brief appearances." Meaning is essentially *personal* and so must cause endless trouble to those psychologists who insist on abstracting from personality.

The stable meanings of words, images, or things are secondary and derivative. Habitual use is the explanation of the apparent inherence of meaning and the key to understanding. No one doubts that words change their meanings thus. Images carry meaning in the same way. Mental images, however, are even more fluid than words. They are "very obliging; you can mean with them pretty nearly what you like." What you cannot do with the image is to make it pivotal for a theory of meaning. Having no intrinsic meaning, no amount of associating and compounding can result in meaning. Schiller particularly attacks Russell's reduction of the meaning of words to images. This presupposes that all have imagery, whereas many get along very well without it. It "incites to the inference" that the more vivid the imagery the more vivid the meaning, when the opposite is more often the case. It would justify the inference that the meaning is influenced by the nature of the imagery, which is not true. Any kind of meaning is conveyed by any sort of imagery.

ENGLISH (Wellesley)

145. SULLIVAN, A. H., An Experimental Study of Kinæsthetic Imagery. *Amer. J. of Psychol.*, 1921, 32, 54-80.

In the first part of the experiment, the observers were told, at different times, to perform a series of simple acts and to think of performing these acts, reporting in each case upon the kinæsthetic processes involved. To observe all phases, it was necessary to fractionate the experiences and ask for reports upon not more than three attributes or perceptive characteristics at a time. The kinæsthetic images of memory were distinguished from kinæsthetic sensations by uniformity, simplicity, and lack of "body." The images were uniform in that they were tiny bits of pressure absolutely lacking in brightness, simple in their approximation to

single process and lack of perceptive character, and lacked "body" in that they were low in all intensive attributes save vividness. In the second part of the experiment, the observers were told to "feel" (i.e., to "realize kinæsthetically") simple acts which they could themselves perform and kinæsthetic situations beyond their direct experience. The latter resulted in a "projected" kinæsthesia, as opposed to the "resident" kinæsthesia of the memory-images. The resident images were ordinarily referred to oneself, while the projected images were referred to someone or something else. While resident kinæsthetic images showed a psychological picture very different from that of kinæsthetic sensations in sensory complexes, the projected images in an imaginal complex showed a picture very like that of kinæsthetic sensations in a sensory complex. The difference between resident and projected kinæsthesia does not reflect merely the functional distinction of self and other; it is correlated with a specific difference of attitude on the part of the observer.

RICH (Pittsburgh)

146. FERNBERGER, S. W., A Preliminary Study of the Range of Visual Apprehension. *Amer. J. of Psychol.*, 1921, 32, 121-133.

An examination of the measures used for the so-called range of attention shows that the concepts involved are neither clear nor exact. Although 100 per cent. correct judgments is used as a measure, the data often fail to reach this value. The statistical limen or threshold offers a more reliable and more readily determined value. Using a psychophysical procedure, one can determine the number of objects, the correct apprehension of which has a probability of 0.5. In the experimental work, the subjects were shown tachistoscopically groups of from four to twelve dots, and reported the number which they apprehended. The frequencies of correct judgments for each number of dots are given in tables, together with the limens and measures of precision computed for the method of constant stimuli. The curves of the judgments resemble the *phi-gamma function*, but are slightly asymmetrical. The thresholds vary between subjects from 6 to 11 dots. Intropective reports indicate that the judgments are of range of visual apprehension rather than of range of attention.

RICH (Pittsburgh)

147. CROSLAND, H. R., A Qualitative Analysis of the Process of Forgetting. Psychological Monographs, 1921, 29 (Whole No. 130), pp. 159.

In perhaps the most significant research in the field of memory made since Kuhlmann's contributions more than a decade ago, Crosland attempts to determine what qualitative changes of memorial content take place with the lapse of time. The procedure consisted in making a series of cross-sections through the remembrance of selected experiences displayed by ten trained laboratory psychologists; examining the contents of these various cross-sections to discover what changes are revealed. Quantitative relations of the forgetting process are purposely ignored.

Seven series of meaningful learning materials were employed, these being presented either in a visual or tactual-kinæsthetic manner for an exposure period of thirty seconds. Delayed recalls were taken after time intervals varying from thirty minutes to over three hundred days. No attempt was made to standardize the learning procedure; to control the recalling function during a time interval; to stimulate recall by questions or cues; to estimate quantitative or qualitative findings procurable by varying the length of the learning period. The main avenue of approach was the method of careful, detailed introspective analysis of the memory consciousness, the experimenter being true to the spirit of the Clark laboratory.

"Mechanisms belonging peculiarly to the process of forgetting are stressed—*typification* and *analysis*; *condensation*, *displacement* or *transposition*, *dramatization*, and *secondary elaboration*. The first pair are kin and become responsible for a great many subjective interpolations and are open roads for much subjective alteration in and addition to the original contents" (p. 134). The group of four mechanisms are the familiar ones of Freudian fame, the experimenter coming to the significant conclusion that these are "found to be present in ordinary, everyday acts of recalling learning materials after various degrees of forgetting have taken place" (p. 71) and are far from either being characteristic solely for the dream-making process or bearing sexual implications.

The phenomena of forgetting result from two reciprocal processes, namely: dissociation and assimilation, these apparently not to be understood apart from the mechanisms mentioned above. Further mechanisms involved are certainty and uncertainty acceptance and rejection.



The relation of attention to the process of forgetting is discussed, this giving an opportunity to bring in the question of the teleology of the forgetting function and promptly to waive its discussion. The author found no discoverable relation between the presence of affection in learning and perceiving and accuracy and correctness of recalling; he dissents from the views of Thorndike *et al.* and Abramowski regarding a stamping-in valence of pleasantness, etc. As may be expected, the respective rôles of visual, auditory-vocal-motor, and kinæsthetic images are fully discussed.

The monograph contains an elaborate bibliography and secured a thorough, yet needlessly lengthy, historical review of the process of forgetting. It abounds in concrete introspective material and, although inclining to a fullness not always essential (especially in the summary), makes interesting and valuable reading.

PECHSTEIN (Rochester)

148. PARKHURST, H. H., *The Obsolescence of Consciousness. J. Phil., Psychol. etc.*, 1920, 17, 596-606.

Awareness is so deeply rooted in racial experience yet it is inexplicable and likewise precarious. After all our investigation what will our awareness turn out to be? It loses color as habit formation advances, as perceptions become more stereotyped, judgments—largely given to us second-hand by society—deal likewise with consciousness as do the first two processes. However, a first-hand experience whereby man tastes the world for himself results in a real state of awareness. The sybarite and esthete are types insisting on much consciousness; at the other extreme are the pedant and the Puritan though to these there may be awarenesses permitted. It is a question as to how one shall exploit his rich resources for intensified living.

GARTH (Texas)

149. EDGELL, B., *Memory and Conation. Proc. Arist. Soc.*, 1920, 20, 191-214.

The writer's problem in this paper is to find an answer to the question "Does the faculty of memory imply the existence of conation as a specific mental function?" by comparing the different points of view represented by Ward (philosophical psychology), Semon (biology) and Freud (psychiatry). The discussion is largely philosophical.

SINCLAIR (Smith)

150. WHEELER, R. H., and CUTSFORTH, T. D., The Number Forms of a Blind Subject. *Amer. J. of Psychol.*, 1921, 32, 21-25.

The number form of an adventitiously blind subject is reported, two reports being made two years apart and carefully compared. The subject has a simple digit form, a tens form, a hundreds form, and so on, as well as a week form, an alphabet form, a month form, and a date form. All his forms are colored. He carries numbers as properly localized colors, translating them as needed into the appropriate figures.

RICH (Pittsburgh)

151. MOORE, H. T., The Comparative Influence of Majority and Expert Opinion. *Amer. J. of Psychol.*, 1921, 32, 16-20.

The experiments reported attempted to show the influence of the group upon judgments of language, morals, and music. Pairs of linguistic expressions, ethical judgments, and musical chords were presented to the subjects for choice, and the normal variability from day to day determined. This was compared with the changes in judgment produced by telling the subjects the majority preference for each pair, and also with the changes produced by telling them the preferences of experts in each one of the fields. Majority opinion was more effective in producing a change of judgment than was expert opinion.

RICH (Pittsburgh)

152. RUBIN, E., Vorteile der Zweckbetrachtung für die Erkenntnis. *Z. f. Psychol.*, 1920, 85, 210-223.

The author records his conscious processes while studying the details of the operation of a camera shutter. The outstanding result is the similarity of consciousness dominated by a consideration of function or purpose to the consciousness dominated by *Aufgabe* in the studies of thought processes. Rubin finds a number of ways in which the *Zweckbetrachtung* favorably influences his mastery of the intricacies of the apparatus. These all reduce to the arousal of a useful constellation of associations, and to the effect of pleasure; the mechanism by which the latter influences the result is not stated. The third stage in the reception of *Aufgaben*, etc., is evidently reached in Denmark for the constant attitude is "of course it is true, but we always knew it." While using most of the Würzburgers' concepts, the author tends to belittle their importance.

ENGLISH (Wellesley)

153. KROH, O., *Eidetiker unter deutschen Dichtern*. (Ein Beitrag zum Problem des dichterischen Schaffens.) *Z. f. Psychol.*, 1920, 85, 118-162.

The author discusses the evidence that certain well-known German poets have *Anschaungsbilder*—i.e., images of hallucinatory vividness, but distinguished from abnormal phenomena because they are recognized as images and are more or less under control; at least they do not constitute "imperative ideas." The images may be either of fancy or of memory. For the most part, they are lively; a whole scene plays itself before the subjective vision of the poet and is then described. Though they are not obsessions, the clearness of the images absorbs attention, demands consideration and constitutes a powerful stimulus to artistic production. Not only are such images the typical material (*stoffliches*) element of poetic creation; the individual differences in the origin, clearness, structure, flexibility, stability, artistic relations, and so on, of these images influence and largely account for the individual characteristics of the poets. It is not the author's thesis, of course, that such images alone make the poet, or artist in any medium, though almost indispensable.

The study is based on the direct evidence of the poets themselves, and on a critical study of their works, special attention being given to those parts where the poet is supposed to have pictured himself.

The abstractor is impressed in this connection by the influence of vocabulary upon theory. Kroh declares that no one would be inclined to speak of a "process of such intense vividness, pronounced individuality, and plastic immediacy as *Vorstellen* in the usual sense." But if we translate *Vorstellen* here as imagining, that is just what Galton did call such a process in his *Inquiry*. Whether the Germans (apparently under the lead of Jænsch) are right in separating *Vorstellen* and *Anschaungsbildete* or whether we are right in regarding the latter as a special case of the former, only further study will reveal.

ENGLISH (Wellesley)

154. WEBER, P. H., *Behaviorism and Indirect Responses*, *J. Phil., Psychol., etc.*, 1920, 17, 663-667.

This newest type of psychology comes forward destitute of consciousness. Watson claiming that thought is implicit behavior only, cannot explain reactions to objects not present, according to

the writer, without such a thing as an image. He has abbreviated what is essentially conscious thus getting it out of sight and fancying he is rid of it.

GARTH (Texas)

## 7. SOCIAL FUNCTIONS OF THE INDIVIDUAL

155. BOAS, F., The Methods of Ethnology. *Amer. Anthropol.*, 1920, 22, 311-321.

The author discusses recent changes in the methods of ethnology. Formerly the basic conception of the science was that of a general uniform evolution of culture affecting all mankind. This is an unproved hypothesis. Recent ethnological research in England and Germany is based on the concept of migration and diffusion, in its turn an inadequate explanation. Both methods are "forms of classification of the static phenomena of culture" pragmatically applied in the interest of historical consistency. A third method is that of American anthropologists who are interested in the dynamics of culture and try to explain cultural history by applying the results of their study of present social changes; meanwhile they postpone questions of ultimate explanation.

General conclusions based on this method are that:

- (1) The theory of psychological determinism in cultural evolution seems doubtful. The history of any particular people cannot be explained on the basis of a single evolutionary scheme.
- (2) The assumption of long-continued stability is unfounded. Periods of stability and instability alternate rapidly.
- (3) Cultural parallelisms occur but are due to dynamic conditions of social and psychological origin leading to similarity.

In conclusion Boas criticizes the psycho-analytic method in ethnology. While certain psycho-analytic concepts may be fruitfully applied, the method has serious limitations. Suppressed desires are less important than many other factors, *e.g.*, language, in explaining social behavior. The applicability of the psycho-analytic theory of symbolism is also questionable since it is but one of many possible types of symbolic interpretation the comparative values of which have to be determined. The application of psycho-analysis cannot therefore be regarded as an advance in ethnological method.

DISERENS (Cincinnati)



156. FRACHTENBERG, L. J., Eschatology of the Quilute Indians. *Amer. Anthropol.*, 1920, 22, 330-341.

This is an account of the animistic psychology of an Oregon tribe of Indians. The individual is supposed to possess a plurality of souls, which, departing separately at death, travel a spirit-path to reunite in a country of ghosts, a duplicate of earth-life accessible only to Medicine men. Separate ghost countries are thought to exist for children and animals, the latter supplying the needs of the dead which resemble those of the living.

DISERENS (Cincinnati)

157. THORBURN, J. M., Mysticism in Art. *Monist*, 1920, 30, 599-617.

This is a defence of æsthetic mysticism and a speculative inquiry into the emotional conditions of artistic creation.

DISERENS (Cincinnati)

158. MARSHALL, H. R., Some Modern Æstheticians. *Mind*, 1920, N.S. 29, 458-471.

Any study of æsthetics must be based upon the psychological study of the experience involved in the appreciation of beauty. The metaphysical problems raised by the philosophers, such as Bosanquet, Coce and his follower Carrit, can never be solved until thought upon them is based on firm psychological ground.

ORNDORFF (Wellesley)

159. ANDERSON, V. V. Education of Mental Defectives in State and Private Institutions and in Special Classes in Public Schools in the United States. *Ment. Hyg.*, 1921, 5, 85-122.

Various tables, graphs, maps and photographs show the extent to which the feeble-minded are housed, trained in vocational work, and educated in general, both in institutions and in special classes throughout the country. While in many states the mere custodial and poor-house atmosphere is being replaced by the atmosphere of hospital and training school, there are still many states which are yet unaware of this change. Nevada, Utah, Arizona, West Virginia and New Mexico have no special state institutions for the feeble-minded. On the basis of army figures it is estimated that there are about 700,000 mental defectives in this country, including both sexes, only 40,000 or 6 per cent. of which are being cared for in

state institutions. Only 19 institutions have developed parole as one phase of their activities and of this number only 5 have attributed to it much importance in the past. The mental examination, by properly equipped experts, of defective children in the public schools and special-class provisions for defective public school children and follow-up work are phases of the general problem which have been attempted or which are properly provided for in but few states and cities in the country. Commendable progress is being made throughout but with the lack of coördination which often characterizes new movements.

WHEELER (Oregon)

160. SOUTHARD, E. E. Grail or Dragon. Notes on the Prime Task of Humanity. *Ment. Hyg.*, 1921, 5, 71-84.

This paper was found after the author's death but was written probably sometime in 1919. It is a philosophical comment upon what the author conceived to be the prime task of society—that of destroying evil. Since pains are sharper than pleasures; since discomforts perturb us more than comfort pleases; since there are evidently more kinds of evil than there are kinds of good, does it not follow that evil is easier to perceive than good is even to conceive and that evils get more clearly into our minds than goods do? And does it not follow that a destruction of definite evils is a better technique to begin with than the construction of indefinite good? Get the Grail, then, but first slay the Dragon! Accordingly, the author classifies evils into their major groups (*Regum Malorum*) each in turn within the grasp of medicine, pedagogy, ethics, jurisprudence and economics. But inasmuch as so many economic, legal, moral, and educational “evils” are traceable to physical and mental conditions or operate through the latter, we need not go far to seek a most practical course by which to analyze and combat this *Regum Malorum*—the psychopathic hospital with its medico-social work.

WHEELER (Oregon)

161. HAMILTON, M. J. Mental Hygiene and the Parasite. *Ment. Hyg.*, 1921, 5, 46-70.

By “parasite” the author means a person who, because of faulty direction of motives and emotional tendencies early in life, has developed repressions for which he tries to compensate by methods of sham, pretense, false promises, a professed willingness

to make contributions but never carrying out this profession in reality. Potential parasites are made of children when they are not taught to remain about their own business; when they are allowed to early sense in a vague way too much lack of sincerity, too much social superficiality, frigidity, hostility and the like; when they begin to learn that a pretense of performing a task the best it can leads to an excuse or compliment; and with attempts on the part of parents to shield the child too much from facing his little problems with honest courage. On the other hand when parents show attitudes of distrust or lack of sympathy toward the behavior of the child, there may develop perversions or repressions which drive the individual, later on in life, to uncritically accept the advances of the aggressive and adult parasite as sincere. In this fashion an unconscious "host" may come to find himself destroyed by a ruthless "parasite." The remedy for this dilemma is largely to be found in properly understanding and in educating the emotional life of the person when yet a child.

WHEELER (Oregon)

162. BURNHAM, W. H. A Survey of the Teaching of Mental Hygiene in the Normal Schools. *Ment. Hyg.*, 1921, 5, 19-45.

This paper summarizes the results obtained from a questionnaire sent by the National Committee for Mental Hygiene to public and private normal schools throughout the country. Replies were received from 175 schools. Relatively few schools offered regular courses in mental hygiene; few reported courses which were especially planned to prepare teachers for ungraded or mentally defective classes in the public schools; the old idea still prevailed that mental hygiene has to do with the abnormal. From these results the author derives the practical needs of the normal schools with respect to their interest in the subject and preparedness to teach it. He also offers suggestions for a possible course, pointing out its advantages in enabling the teacher to better understand her own personal behavior, in enabling her to judge the health and possible defects in her pupils, in revealing the real constructive aim of discipline, in aiding the teacher to perform her social function in the community, and the like.

WHEELER (Oregon)

163. WHITE, W. A. The Behavioristic Attitude. *Ment. Hyg.*, 1921, 5, 1-18.

In a simple exposition of a behavioristic psychology applicable to problems of social service work the author brings together the facts of conduct and of consciousness and relates them by defining such processes as perceiving, thinking and feeling as but actions in their respective processes of becoming. The psyche consists of the final groupings of action patterns, integrated to serve the organism in its functions as a unity. The author does not define the unconscious in behavioristic language, except in indirect fashion, as tendencies which attempt to appropriate the means of expression. All action implies tendencies and countertendencies and before behavior can be understood one must analyze these tendencies. Internal evidence of these tendencies is found in the individual's unconscious and from a clinical examination of the bodily organs. Throughout the paper are included practical suggestions for the social worker.

WHEELER (Oregon)

164. BERRY, C. S., Some Problems of Americanization as seen by an Army Psychologist. *Sch. & Soc.*, 1921, 13, 97-104.

Army psychologists graded the intelligence of the officers and men in all the camps and cantonments of the United States by means of standardized tests. From a comparison of the results with the men's occupations it was found that the lowest grade of intelligence as well as the smallest amount of education exists among the laborers. The United States Occupational census shows that 20 per cent. of the males engaged in gainful operations are laborers. This means that practically all of our unskilled and partly skilled workers are illiterate, not because of lack of educational opportunities, but because of lack of intelligence. Being both ignorant and unintelligent, this laboring class is easily swayed by labor agitators and anarchists. Three suggestions are made for the Americanization of these workers. The first is to give lectures on the elementary facts of social and industrial organization at their labor meetings, the speakers being of the same class or nationality as those whom they address. The second proposal is the teaching in elementary schools of the principles of social and industrial life and their practical applications to the problems of the day. The third suggestion is that teachers be instructed in normal schools and colleges in political history, economics and sociology. With this background



they can teach their particular subject in the light of the practical problems of government and industry, which will confront their pupils in later years.

A fairly complete account of the results of the Army tests is given at the beginning of the article and different arguments against socialism drawn from economic and sociological principles, are suggested as appropriate for teaching children.

KENNEDY (Radcliffe)

## 8. SPECIAL MENTAL CONDITIONS

165. FINLEY, C. S., Endocrine Stimulation as Affecting Dream Content. *Arch. of Neurol. and Psychiat.*, 1921, 5, 177-181.

The case reported is that of a single woman aged 45, who suffered from extreme lassitude following an attack of influenza, although her health previously had been remarkably good. As her occupation required long hours of steady application, it was necessary to restore her strength quickly, and consequently a course of endocrine therapy was decided upon as the best and shortest means of raising her blood pressure and increasing capacity for work.

Until this time the patient had not been conscious of dreaming a dozen times a year, but after ten days of administration of pituitary extract, she began to have very vivid dreams each night. These dreams were characterized by sensations of light and color—of action, going somewhere—and of pleasure in anticipating happiness to come. The patient recalled events as series of pictures, and her recall of dreams was as of a succession of vivid pictures with the predominant emotion, hope.

After three weeks of pituitary extract, the patient developed a rather coarse intention tremor of hands, and thumbs were occasionally sharply adducted. Hence pituitary extract was discontinued and suprarenal substituted. Although the dreams continued after the pituitary was discontinued, their character changed a few days after the beginning of the administration of the suprarenal. They were less vivid, with no color, and were without exception unpleasant. Recall was not so easy.

After ten days of suprarenal extract, the patient who had always menstruated regularly, had slight flow half way between periods. As the patient was feeling entirely well, medication was stopped. Within two or three days the dreams became less frightful and within

ten days had ceased altogether. During normal menstruation, dreams recurred but were all pleasant as were those occurring during the taking of the pituitary.

During the following three months, abnormal menstrual discharge occurred but was never accompanied by dreams. Gradually dreams accompanying normal menstruation became less vivid and fewer until they ceased entirely.

Thus the cause of dreams in this case was not psychic trauma, but the result of too great pituitary activity which stimulated the ovaries and raised to the surface of dream consciousness, some of the many unfulfilled desires. The unpleasant dreams are explained as the result of the action of the suprarenal gland, the physical basis of fear. Thus we find pathologic overactivity of the various endocrine glands, producing emotions without or disproportionate to, any foreign stimulus. That dreams and emotion behind them may have purely physical origin, is an aspect of the subject somewhat lost sight of in Freudian interpretation.

LOWDEN (Boston Psychopathic Hospital)

166. FREUD, S., One of the Difficulties of Psycho-Analysis. *J. Ment. Sci.*, 1921, 67, 34-39.

The author states that the difficulty of psycho-analysis which he is to discuss is not an intellectual one but an affective one, which estranges the feelings of those to whom it is introduced and makes them less inclined to accept or be interested in it.

He explains his "Libido Theory," dwelling particularly upon narcissism, which he calls "mankind's self-love." He says that three times this narcissism has been badly wounded by the results of scientific research. First, cosmologically, when in the 16th century Copernicus established his theory that mankind's world was not the stationary center of the universe. The second blow was a biological one delivered by Charles Darwin when he advanced his theory that mankind is not different from or better than the animals but only the outcome of an animal series. The third blow, says the author, is most painful. It is the psychological one. Man feels himself to be sovereign in his own soul and the author has proved that he is not.

Psycho-analysis has wanted to teach the ego that it is "not master in its own house." No wonder, therefore, that the ego does not favor psycho-analysis, and obstinately refuses to believe in it.

Schopenhauer with his "unconscious will" may be cited as a pre-

decessor of psycho-analysis. This psychology which proves, by means of a material that touches every individual personally, the psychical significance of sexuality and the unconsciousness of mental life "brings on itself the aversion and opposition which still spare diffidently the names of the great philosophers."

LEAMING (Pennsylvania)

167. VAN LOON, F. H., and WEINBERG, A. A. A Method of Investigation into Thought-Transference. *J. Soc. for Psychical Res.*, 1921, 20, 34-49.

Resuming the discussion on the same subject begun in the January issue of the Journal. Drawings of figures are given as illustrations and the results are treated statistically. The following are a few of the conclusions brought out by the investigation: (1) An extra-sensorial perception of contents of consciousness is possible. (2) Emotional processes of consciousness are more easily transmitted than others, consequently sensations making the strongest impressions are most easily transferred. (3) Because of this, the impressions received by the best developed organs of sense are very likely transmitted most easily and it is necessary for the transference of thoughts that the consciousness, of the one who perceives, be as diffuse as possible.

BROOKE (Pennsylvania)

168. MENDICINI, A., La respiration dans la mélancolie pendant le sommeil. *J. de psychol.*, 1920, 17, 806-810.

This article contains a preliminary report of an experimental investigation which will appear in full in *L'Archivo Generale di Neurologia e Psichiatria*. The respiration curves of one normal subject and two pathological subjects suffering from melancholia were studied. Melancholic subjects show diminished respiration while awake and asleep, equally in both states. The amplitude of respiration in both states is greater than the normal, although the breathing is slightly weaker in sleep. With these subjects the time of inspiration is longer than the time of expiration both in sleep and waking, and the relation between these times does not change as it does with normal subjects. Sleep is marked by sighs having a psychic origin. Dreams modify the curve of respiration. Inspiration and expiration show pauses in melancholic patients not shown by normal individuals. Pauses and tremors are caused by psychic factors.

BRIGHAM (Princeton)

169. STODDART, W. H. B., A Brief Resume of Freud's Psychology. *J. of Ment. Sci.*, 1921, 67, 1-8.

The meaning of the following terms as used by Freud are explained, "depression," "complexes," "the unconscious," "the conscious," "desire" and "reaction." He speaks of the modes of gratifying unconscious wishes and illustrates with examples. He emphasizes the importance and significance of dream interpretations.

Taking up the main items of Freud's psychology he first discusses "psychical determinism." He says, "According to the Freudian school, every thought, action, memory or psychical event of any kind is rigorously determined by the circumstances of the moment *plus* the whole of the individual's previous experience of life. There is no such thing as 'chance' in mentation. If you forget an appointment, misplace something, say or write the wrong word, bring home some treasure which consciously you value, cut a friend or fall downstairs, there are reasons—usually unconscious—for such occurrences."

The second item of importance in Freud's psychology, according to Dr. Stoddart, is his contention that "forgotten infantile desires and interests remain permanent throughout the whole of life, and that many adult activities owe their energy to primitive infantile impulses which lurk hidden behind them."

The third outstanding feature of this new psychology is the important discovery of Freud concerning the affective processes. "An emotion or affect arises in association with some particular situation, incident or thing: but it appears that it is possible for the affect to be divorced from the original situation, incident or thing, and to become attached to another somewhat similar situation, incident or thing, or even to float free, as it were, for a time, waiting for some situation, incident or thing."

The last item which he discusses is the part of Freud's psychology which he states has aroused the liveliest opposition, viz., the importance he attaches to the sexual instincts as etiological factors in the development of the neuroses and psychoses. He says that the chief reason for opposition is the fact that the topic of sex is taboo. He continues by saying that Freud has concluded that "nobody is quite normal sexually; and since very few people would be willing to acknowledge any abnormality, sexual matters in general become taboo to such a degree that repression achieves the force of an inborn instinct."

He defends the technique of psycho-analysis against the arraign-



ment of Sir Clifford Allbutt, who charges it with being contaminated with militarism and ecclesiasticism by which he implies a method of dominating the patient by suggestion and a method of relieving his mind by getting him to confess his past misdeeds.

In conclusion Dr. Stoddart takes up psycho-analysis and its relation to the psychoses. His feeling on this matter is that psycho-analysis with the psychoses is effective in very few cases and then almost entirely in the very early stages of the condition. He points out that the great difficulty here lies in the impossibility of securing the coöperation of the patient when the mental condition is further advanced.

LEAMING (Pennsylvania)

170. BROWN, W., Criticism of Present-day Psycho-analysis. *J. Ment. Sci.*, 1921, 67, 17-26.

A discussion of the importance of Freud's psycho-analysis from the point of view of modern psychology.

The author differentiates between the Greek philosophers' psychology of thought or cognition and the modern psychology of emotion and feeling and says that the tendency in modern times is to replace the rational by the irrational.

He gives briefly the historical origin and development of psycho-analysis and shows how Freud has turned from the "emotion" theory which he and Breuer sponsored back in 1893 and 1895, to his present "libido" theory. He points out the great difference between Freud's complicated "libido" as a theory and psycho-analysis as a method.

He discusses re-association, psycho-catharsis or abreaction, autognosis and suggestion as relatively independent and effective factors in psycho-therapy.

LEAMING (Pennsylvania)

## 9. NERVOUS AND MENTAL DISORDERS

171. HEALY, W., Nervous Signs & Symptoms As Related to Certain Causations of Conduct Disorder. *Arch. of Neurol. & Psychiatry*, 1920, 4, 680-690.

From the fifteen cases of conduct disorder (principally stealing), which Dr. Healy discusses in this paper, he shows that the cause of the delinquency is the mental conflict resulting from the associa-

tion between ideas of stealing and repressed ideas of a sexual nature. The origin of this association he usually traces to the fact that a companion initiated the patient into ideas of sex and stealing at approximately the same period.

These sexual ideas are very unpleasant, and the children report that they not only make them feel like stealing, but give them "queer feelings," such as dizziness, violent headaches and sometimes nausea. Dr. Healy also observes in them many nervous habits, for example, tics, nail-biting, shivering, sweating, stuttering and extreme irritability. These habits, he often finds to be reminiscent of the patient's behavior during the original experience.

In most cases where the child has been able to tell to the examiner the story of his inner turmoil, the delinquency and nervousness have disappeared. Dr. Healy estimates from his wide experience in the field that 10 per cent. of young delinquents are suffering from mental conflict.

HINCKS (Radcliffe)

172. POLLOCK, H. M., & FORBUSH, E. M. Patients with Mental Disease, Mental Defect, Epilepsy, Alcoholism and Drug Addiction in Institutions in the United States, January 1, 1920. *Ment. Hyg.*, 1921, 5, 139-169.

The above article contains the third census of patients with the mental diseases named, made by the National Committee for Mental Hygiene. The total number of institutional patients on January 1, 1920, was 232,680, 8,723 more than in 1918. Of these, 40,519 were mental defectives, 14,937 epileptics, 1,163 alcoholics (not included under other classifications) and 808 drug addicts. Figures show that a constantly increasing proportion of the insane is being cared for in institutions. The rate of mental patients per 100,000 of general population increased from 204.2 in 1910 to 220.2 in 1920. Noteworthy changes in the care of mental diseases include the development of United States Public Health Service hospitals of which there are six which are devoted specially to neuropsychiatric cases; the extension of institutions in the Southern States; and the discontinuance of the last four existing hospitals for inebriates.

WHEELER (Oregon)

173. DRAKE, R. B., An Experiment in Library Work in a Hospital for Mental Disease. *Ment. Hyg.*, 1921, 5, 130-138.

The author describes her work as A. L. A. librarian at the St. Elizabeth's Hospital, Washington, D. C., and points out the recreative, therapeutic and educational value of a hospital library. While her limited experience in hospitals specializing in mental and nervous diseases did not warrant conclusions concerning the best type of reading material for such patients it is clear that such libraries should either be provided with or have access to non-fiction as well as fiction. Biographies, vocational works, histories, books on foreign languages, art and science were frequently desired.

WHEELER (Oregon)

174. POLLOCK, H. M., Decline of Alcohol and Drugs as Causes of Mental Disease. *Ment. Hyg.*, 1921, 5, 123-129.

In New York State the per cent. of alcoholic and drug cases among first admissions to the civil state hospitals for the insane has gradually declined, in general, from 1909 to 1920, but since 1917 the decrease has been relatively faster than in the previous years. In 1909 the per cent. of alcoholic cases was 10.8; in 1917 it was 8.6 (a rapid gain over the two previous years) but in 1920 it had dropped to 1.9. Drug cases have decreased from .5 per cent. in 1909 to .2 per cent. in 1920. The annual rate of incidence of mental disease has decreased from 69.0 per 100,000 in 1917 to 63.3 in 1920, a figure the lowest since 1912 when the rate was 61.5.

WHEELER (Oregon)

175. VINCHON, J., Anxiété et paludisme. *J. de psychol.*, 1920, 17, 711-720.

In the psychiatric service of the French army operating in Algeria, the author had an excellent opportunity to observe the mental symptoms associated with malarial fever. Other writers in describing these symptoms have attached more importance to the condition of mental confusion than to anxiety states. Anxiety may exist independently, although it is more often associated with confusion. The anxiety itself in severe cases causes the mental confusion. The clinical picture is marked by labored breathing, tremors, vertigo, extreme motor incoördination, fear of death, etc. The delirium is impoverished, being circumscribed by the conditions of military life. The reactions are violent, the patients frequently being suicidal and hostile toward the attendants. Severe

disorders are preceded by a period of uneasiness, and after the fever has subsided the patients are frequently nervous and restless. The author recognizes the importance of certain predisposing causes such as the severity of the climate, fatigue due to lack of sleep, faulty diet, infections, etc., and certain psychogenic factors such as length of exile from civilization, scarcity of leaves, the irregularity of the mail service, the hostility of the native population, etc., but is inclined to attach more importance to certain organic disturbances of the liver, spleen, and, secondarily, of the heart. He finds the hypothesis of the malfunctioning of the visceral reflexes more satisfactory than Lange's hypothesis of peripheral vasomotor disturbances, although he admits that little is known concerning the physiology of these processes.

BRIGHAM (Princeton)

176. FERNALD, W. E., An Out-Patient Clinic in Connection with a State Institution for the Feeble-minded. *Amer. J. of Insanity*, 1920, 77, 227-235.

This is a report on the writer's experiences with an out-patient clinic established in 1891 for the purpose of giving expert advice on juvenile mental and personality problems. Over 6000 patients have been referred. In 1919 advice was given concerning 377 patients, whose chronological ages were as follows: Under 1 year, 1; 1-2 years, 14; 3-4 years, 29; 5-9 years, 83; 10-14 years, 105; 15-19 years, 65; 20-24 years, 23; 25 years and over, 19; Not stated, 38.

A thorough examination is given by a group composed of a psychiatrist, teacher, psychologist, and social worker, and the results are grouped under various headings. The chief of the clinic then independently examines the patient before he has read the findings of the others. After diagnosis each case is reviewed by the whole staff. The diagnosis for the 377 cases in 1919 varied considerably. Some of the primary groupings were as follows: Feeble-minded, 93; Feeble-minded and delinquent, 101; Inferior normal, maladjusted, or with character defect, 14; Normally-minded, maladjusted, 19; Normally-minded, delinquent, 9; Psychotic, 20; Developing psychosis, 8; Psychopathic, 6; Epileptic, 7.

The advice given varies from institution care, to home care, special class, private school or teacher, change of school or teacher, travel, treat as delinquent, go to work, modify home environment, etc. Especially is it stressed that the patient is capable of only partial efficiency in any field. Institutional care for the feeble-



mind is often supplemented by a change in environmental conditions. A special public school clinic, informal and sympathetic, should be established and boys and girls encouraged to talk over their problems of adjustment and adaptation, but it should have no connotation of the diagnosis of actual mental disease or defect.

Cook (Taunton)

177. READ, C. S., Homosexuality. *J. Ment. Sci.*, 1921, 67, 8-12.

Homosexuality has been regarded as a disgusting perversion which merits no further interest or investigation. The author states that this disgust and revolt is explained by Freud as due in great part to the existence in the ordinary mind of a homosexual component of the sex instinct, which finds indirect expression in the condemnation of homosexuality in others.

He differentiates the passive homosexual from the active type and says that the psycho-analytic theory is that homosexuals are only more strongly fixed than other people in the narcissistic or self-love stage.

He speaks of the work of Freud, Ferenczi, Jung, Bleuler and Maeder in tracing the connection between paranoia and latent homosexuality. He states that during the late war paranoid states were very common among the mental disorders manifested. He has put forward the etiological hypothesis that the herding of vast numbers of men together may have aroused a latent homosexuality in many.

The intimate relation existing between alcohol and the paranoid states is patent to every psychiatrist. Alcoholism is not really the basic cause of a paranoiac state, but in the insoluble conflict between a conscious heterosexual and a repressed unconscious homosexual desire the individual flies to alcohol as a refuge. Observant psychiatrists, says Dr. Stanford, must have been struck by the common sexual contents of the hallucinations in paranoiacs and those of so-called alcoholic hallucinosis.

LEAMING (Pennsylvania)

178. REES-THOMAS, W., Sadism and Masochism. *J. Ment. Sci.*, 1921, 67, 12-17.

The author gives definitions and numerous illustrations of sadism and masochism.

LEAMING (Pennsylvania)

179. BAYNES, H. G., Psycho-analysis and the Psychoses. *J. Ment. Sci.*, 1921, 67, 27-33.

The author defends a classification of the psychoses as primarily functional. He upholds his position by stating that prolonged disturbances of function may produce the structural changes observed post-mortem in many of the psychoses.

He discusses Jung's "collective unconscious" and says that there is no essential difference between the phantasy-world of the insane and the dream-world of the normal person.

He states that as yet the knowledge of the unconscious element is so fragmentary that the analyst in attempting a cure may plunge his patient deeper into his psychosis and destroy his tenuous hold upon reality. He pleads for a sympathetic comprehension of the task of the analyst.

LEAMING (Pennsylvania)

180. ROBINSON, W., Future of Service Patients in Mental Hospitals. *J. Ment. Sci.*, 1921, 67, 40-48.

The author discusses the etiology, types of mental alienation, and prognosis in 140 service patients under detention in a certain mental hospital, and concludes that the outlook with regard to recovery and ultimate discharge from mental hospitals of the greater majority of the patients included in the service class can only be regarded as extremely bad. He states that the public is disposed to regard the service patient as one who is curable and ought to be cured, therefore the statement that cases are incurable is likely to lead to accusations of pre-judgment and unwillingness to resort to recently advocated methods of treatment when old ones are ineffective.

LEAMING (Pennsylvania)

# 10. INDIVIDUAL, RACIAL AND SOCIAL PSYCHOLOGY

181. DEVLIN, F. E., Occupational Therapy—In a Mental Hospital. *Canadian J. of Ment. Hygiene*, 1920, 2, 219-227.

The gratifying results obtained through the effects of Occupational Therapy in the treatment of the soldiers suffering from the horrors and hardships of war have acted as a great stimulus to all those immediately interested in the problem of mental disease to apply this form of treatment at least as a partial solution of its many difficulties.

To give practical bearing to his remarks, Dr. F. E. Devlin, Medical Superintendent, St. Jean de Dieu Hospital, Montreal, suggests as a tentative program of Occupational Therapy for the Insane:

1. The training of a certain number of nurses, religious or lay, in each hospital for the insane to be known as nursing therapists, under the direction of one of their number to be known as Chief Therapist.

2. That their entire time and energy be given to this problem under the direction and in conference with the medical superintendent and his staff.

3. The creation of an index-card system of Occupational Therapy for every patient which will note the effects and progress, or otherwise, in each individual case.

4. The training of patients in groups of twenty, to which each patient will be assigned as soon as any special treatment he may require is finished. This group treatment being necessary to develop social tendencies.

Such a system, or one of similar character worked out in detail, should be adopted if one would accurately collect, note, and record all the facts and data necessary for the evolution of this branch in the treatment of the insane.

"In conclusion, I am of the opinion that the time has arrived when we should endeavor to seek out the good effects of Occupational Therapy and apply them not alone in our demented cases but as far as possible to all stages of mental disease. Its results may prove of incalculable benefit to our patients and of joy to their families. To the State the great saving in the cost of their maintenance, in preventing or uprooting habit disorganization, in the creation of much by their labor, that is also useful to themselves, in the enormously increased number of cases fit for parole and that for considerable periods of time and last but not least, the greater probability of the restoration to health, mental and physical, of many of these persons who will thus be enabled to lead lives of usefulness to themselves and to society."

GALLAGHER (Pennsylvania)

182. CLARKE, C. K., Juvenile Delinquency and Mental Defect. *Canadian J. of Ment. Hygiene*, 1920, 2, 228-232.

In order to trace the connection between mental defect, juvenile delinquency, and industrial incompetence, a careful survey of

conditions surrounding these problems is being carried on by the Canadian National Committee for Mental Hygiene, as it is felt that by studying the life histories of the individuals involved great light may be thrown on several problems which are by no means clearly understood at the present moment.

The Juvenile Court in Toronto has furnished the clinic with 1,419 delinquents in a short period, and as practically all these children were of school age, it is at once realized that there is a serious failure in Public School methods. Dr. C. K. Clarke, Medical Director, Canadian National Committee for Mental Hygiene, believes that with the installation of special classes, where the weaklings may be interested along lines that appeal to them, truancy will practically disappear.

Theft was the most common charge against the juvenile delinquents brought before Dr. Clarke for examination. He holds that the early detection of the mental defect and careful development in special classes or in a Boys' Village would have prevented these children from becoming anti-social and incorrigible.

It was found out in the investigation that bad environment undoubtedly plays an important rôle in the production of juvenile delinquents.

This is an outline of a few of the things found out in Dr. Clarke's clinic—"things which prove beyond argument that if we are to secure the lessening of vice, we must begin our work by a careful study of the individual in schools with the idea of controlling and treating the defective and diseased at the earliest moment possible."

GALLAGHER (Pennsylvania)

183. MUNDIE, G. S., The Rôle of The Psychiatric Clinic in the Community. *Canadian J. of Ment. Hygiene*, 1920, 2, 237-245.

In the field of preventive medicine, during the last few years, the Psychiatric Outdoor Clinic has taken an important place. As a result of the knowledge that the proper approach to the solution of the problems relating to general medicine, criminality, delinquency, venereal diseases, prostitution, illegitimacy is through the correction of the abnormal mental make-up, mental or psychiatric outdoor clinics have been established in connection with the general hospital, or as separate units in many cities of the United States and Canada.

Dr. Gordon S. Mundie, Associate in Neurology, Royal Vic-



toria Hospital, Montreal; Lecturer in Psychiatry, McGill University; Associate Medical Director, Canadian National Committee for Mental Hygiene, discusses the rôle of the psychiatric clinic in the community in its relations to eight different agencies:

1. Relation to the General Hospital.
2. Relation to the General Practitioner.
3. Relation to the Provincial Asylums.
4. Relation to the Public Schools.
5. Relation to the Courts.
6. Relation to the Charitable organizations in the community.
7. Relation to the General Public.
8. Relation to the Social Worker.

Dr. Mundie draws the conclusions that the community, until recently, has laid too much stress on the physical disease. We must pay more attention to the mental side of our people, in order to make our country a bigger and better country to live in. In this regard the work of the psychiatric clinic is valuable. Its purpose is to prevent and preserve the mental health of persons, to diagnose and estimate the number of feeble minded and mentally abnormal persons in the community, and lastly to try and solve the problem of those persons who physically well, are not feeble-minded or insane, but are misfits in the community.

GALLAGHER (Pennsylvania)

184. DOHERTY, C. E., The Care of the Mentally Defective. *Canadian J. of Ment. Hygiene*, 1920, 2, 207-218.

Dr. Charles E. Doherty, Medical Superintendent of Hospitals for Insane, British Columbia, in his article on "The Care of the Mentally Defective," outlines the program for dealing with the mentally defective that has been entered upon by nearly every province in the Dominion of Canada and nearly every state in the Union to "our South." Laudable steps have been taken in that the matter has been studied thoroughly, with the result that the following definite recommendations concerning the feeble minded have been made:

1. Facilities for Diagnosis. Arrangements should be made for the diagnosis of the mental status of school children, juvenile and adult delinquents, prostitutes, and unmarried mothers. This work could best be carried out through the agency of mental clinics. Particular reference is made to how the work can best be carried on in the Province.

2. Facilities for Training. There is an urgent need for the establishment of a Training School for Mental Defectives in British Columbia because the present survey has demonstrated that there are a large number of feeble-minded in the Province requiring prolonged treatment in such an institution. The type of training school suggested is along the lines of the institution at Waverly, Mass., where provision is made for the segregation of defectives according to sex, intellectual development and behavior.

3. Extension of Special Classes. The advisability of providing more special classes for the backward and defectives in the schools of the Province cannot be too strongly urged. The provision of these classes would materially diminish the number of feeble-minded who would otherwise require prolonged institutional care.

As a result of this report, the Government has made a definite start; necessary legislation has been enacted; a bill, "An Act to Establish a Subnormal Boys' School," has passed this session of the Legislature, under which the very vital question of the mental defective of the Province will be dealt with along proper lines.

Dr. Doherty appeals: "Gentlemen, a conclusion I cannot help reaching is that the problem is not as large as it is sometimes made out to be, and that great progress can be made in the Province along lines that are reasonable and not too costly . . . Gentlemen, it is not so much a question of whether or not a system of supervision of the feeble-minded will be simple or cheap. It is a fact that we are going to begin to do this thing which has to be done before we can get any farther with the problem of feeble-mindedness, the only question being how long we are going to flatter ourselves that the money for ungraded classes is well spent, which supervision ceases when the greatest need for it begins. There is no use training children for the scrap-heap. If supervision is too expensive then, Gentlemen, ungraded classes are rank extravagance."

GALLAGHER (Pennsylvania)

185. HALL, G. S., Psychology and Industry. *Ped. Sem.*, 1920, 27, 281-293.

Emphasis is put upon the importance in the present industrial situation of the human needs for nutrition, sex, self-advancement, curiosity, determination of individual aptitudes, and gregarious life.

DASHIELL (North Carolina)

186. ADLER, H. M., The Criminologist and the Courts. *J. of Crim. Law and Criminol.*, 1920, **11**, 419-425.

Paranoid or egocentric personalities, defective delinquents, and psychopathic criminals have proved of unusual importance in criminological study. Paranoid personalities, who are often intellectually superior, are selfish, treacherous, cruel and markedly egocentric. Nevertheless they are able to realize the viewpoint of others, and are given to elaborate promises of improvement, with which their subsequent conduct does not correspond. There is little real improvement in these cases, and "the only thing that can be hoped for is an adjustment to the environment which will enable the individual to avoid trouble in spite of his personality." By the term "defective delinquent" is meant a class of individuals who show both mental defectiveness and consistently bad behavior. Since the problem is one of behavior primarily, however, some psychopathic and psychotic individuals, and some individuals who are not feeble-minded are grouped with the defective delinquents. Under "psychopathic personality" is included the liar, swindler, the individual who is markedly eccentric or impulsive, and many other types who are not feeble-minded, insane or epileptic. Recommendations are made as follows: (1) criminals and delinquents, as state wards, should be under the direction of trained criminologists; (2) duration of treatment should depend on "progress towards normality;" (3) criminals, feeble-minded and insane should be legally minors until they prove themselves capable of managing their own affairs.

GAW (Boston Psychopathic Hospital)

187. FERNALD, G. G., Character versus Intelligence in Personality Studies. *J. of Abnor. Psychol.*, 1920, **25**, 1-10.

"It is herein attempted to indicate that personality studies should recognize character as an integral field of inquiry; since an evaluation of personality based on investigation of intelligence only or of intelligence plus such consideration of character traits as is incidental thereto is incomplete and misleading." Morton Prince classifies personality as the sum total of all the biological innate and acquired dispositions and character (included in personality) is the sum total of the *predominating* tendencies or dispositions both innate and acquired. Those dispositions which are predominant tend to determine the modes of thought and they characterize the quality of the intelligence rather than the degree of intelligence. Character

is the resultant of the dominating acquired dispositions of the individual and is manifested in his intellectual traits. But both the innate and the acquired traits become organized by experience into a functioning whole. The study of personality resolves itself into a study of behavior, for only by behavior can we recognize the dispositions and other traits of a person. From the point of view of behavior, character comprises the characteristic modes of the reactions of an individual to the environment under given conditions. Intelligence and character are inextricably blended and interdependent in each person, though the manifestations of intelligence (thought) are distinct from the manifestations of character (behavior). Intelligence tests which neglect an investigation of behavior may fail to demonstrate not only character, but fail of a complete demonstration of intelligence since its quality is omitted. Personality is other and more than the part of mentality which can be expressed in terms of mental age level. Character traits should be recognized as such and not regarded as parts of mentality. Functionally, the capacity for thinking is related to the degree of intelligence rather than to character, whereas quality of thinking or behavior is related to character rather than intelligence as is shown by the fact that the responsibility for behavior is referred not to the degree of intelligence, but to the extent of knowing right and wrong. Ill-chosen behavior—not ill-chosen thinking—is what is punished. Character develops far beyond the close of the formative period of the normal intellectual development and its modifications continue to be reflected in behavior after intellectual development ceases. In the early formative period intelligence progresses faster than character, but in the latter period character progresses faster than intelligence. Adolescents are not considered responsible because their character has not yet formed, but adults are considered responsible unless their intellect is defective. All personality studies undertaken to determine the responsibility and method of behavior modifications are more concerned with character and its deviations, than with intelligence and its measurement of efficiency. The only way to restore psychopathic or parasitic individuals to usefulness, is through the modifications of behavior and behavior may be modified most effectively by educating, redirecting, and fortifying the character while plasticity remains.

JONES (Radcliffe)



188. GODDARD, H. H., In the Light of Recent Developments: What Should be our Policy in Dealing with the Delinquents—Juvenile and Adults. *J. of Crim. Law and Criminol.*, 1920, 11, 426-432.

The idea that the treatment of the offender should be for purposes of reforming him seems not only impracticable but also impossible, in view of the fact that many criminals are of weak mentality and consequently unable to correct such criminal habits as may have been formed. Among such offenders, must be considered first the feeble-minded, who because of low mentality are not fully responsible for the crimes they commit. It is apparent that the chances of reforming them are small. There is also in the criminal group a large per cent. of the so-called psychopathic personalities—individuals showing abnormal functioning of mind together with consistently bad behavior. Whatever his intelligence level such an individual cannot be considered responsible as his mind is diseased. So far as reformability is concerned, there is again serious question. No doubt some may recover from diseased condition. Others remain the same, and still others deteriorate into some form of insanity.

Assuming then that many criminals are both irresponsible and unreformable, what should be our policy in treatment? We have become accustomed to the idea that the feeble-minded should be segregated. Should the same policy be followed in the case of the psychopathic personalities who, although they constitute as large a group as the feeble-minded, differ from them in that they may be of normal or even superior mental level? If segregation be the policy, then there is the problem of supplying necessary institutions. Should they be sentenced for a time to an institution and then be allowed at large? If we do not know of a certainty that the diseased condition has been cured there will be but a repetition of the crimes for which the individual was originally sentenced. In the case of capital offenses, should capital punishment be given? So far as the criminal is concerned, the electric chair might be the kindest treatment, but to what extent should family and relatives (of the criminal) be considered? As a deterrent from crime, capital punishment is no doubt of value.

"Is it possible in view of all the facts that the wisest policy is to have a thorough examination into the question of responsibility, to segregate and control the feeble-minded and psychopathic offenders, but upon those who are not *clearly* irresponsible to visit the severest penalty?"

LOWDEN (Boston Psychopathic Hospital)

## II. MENTAL DEVELOPMENT IN MAN

189. MADSEN, I. N., The Army Intelligence Test as a Means of Prognosis in High School. *Sch. & Soc.*, 1920, **11**, 625-627.

Application of the Alpha test to pupils in three Omaha high schools shows that the schools rank in the same order as the percentage of American-born parents. Sex differences appear in all three schools, to the advantage of the boys, though this may be due to the test being primarily a "man's test." The girls, however, had better grades, their advantage being largest in Freshman year, and gradually vanishing. Correlations of intelligence with grades for the four years of high school (in the South Omaha High School) are:

Freshman year.....	20
Sophomore " .....	48
Junior " .....	37
Senior " .....	24

Comparing the upper quartile with the lower quartile in the South Omaha High School on the basis of subjects chosen, "there appears to be a marked tendency for the superior group to select the subjects usually considered 'hard' and for the inferior group to select vocational or pre-vocational subjects . . . Intelligence testing points a practical way of vocational guidance and prognosis in high school. This belief is confirmed . . . by a close study of individual cases."

MURPHY (Boston Psychopathic)

190. MAY, M. A., Standardized Examinations in Psychology and Logic. *Sch. & Soc.*, 1920, **11**, 533-540.

The standardization of examinations, already applied successfully to many school subjects, can advantageously be applied to college subjects. Excerpts from examinations in Psychology and Logic at Syracuse are offered. The structure of these examinations is the same as that of the ordinary intelligence tests. The preliminary forms were made by substituting subject-matter from Psychology and Logic in some of the tests of the army alpha and Otis tests. In the Psychology examination the tests were: Practical Judgment (question with three answers), True and False Statements, Information, Analogies, and Similarities. These five were also used for the Logic examination, plus four others made to fit the subject-matter of Logic. The Thurstone rotation

method of presentation was used. All pupils started together; the times recorded for the Psychology examination ranged from 18 to 100 minutes, for 150 items. All were allowed to finish, but pupils knew that credit was to be given for short time. In scoring, the formula  $S = R + KT$  was used,  $R$  being the number right,  $K$  a constant, and  $T$  the time.  $K$  was so chosen as to give maximum correlation with instructors' estimates; this gave a value of minus 1. The formula becomes  $S = R - T$  (in minutes). The correlation thus obtained is plus .62. Using army alpha instead of instructors' estimates, the same formula still gives the highest obtainable correlation with  $S$ , namely plus .52. P.E's were not computed, but over 200 students were scored, so that results are fairly reliable. The optimum formula for correlating scores with old fashioned examinations consisting of general questions is  $S = R - .6 T$ , which gives a correlation of plus .75. The assumption of linear relationship seems justified for practical purposes, the regression line being fairly straight. To translate scores into college grades, the median score is arbitrarily set at a given value, and the variations from the median are spread over the grade scale so that the percentage of pupils reaching a certain grade, or falling below a certain grade, is the percentage ordinarily found in grade distribution. The median chosen, and the percentage falling within certain grade groups depend simply on the figures actually found in current grading. As soon as 1000 pupils have been so tested at Syracuse, the writer will construct standard tables which will render separate computation of medians and distributions for each class unnecessary.

This method has the following advantages: (1) it saves time; (2) it is free from subjective errors in scoring; (3) it is coach-proof; (4) it involves more recognition than recall; (5) it tests general as well as specific knowledge; (6) it serves to mark off clearly the questions failed by many pupils, and the correct answers are driven home when these questions are brought up for discussion later; (7) to a limited degree it tests general intelligence. The method needs further study, and the writer intends to continue its use in psychology with a view to perfecting it.

MURPHY (Boston Psychopathic)

191. HELLER, W. S., Analysis of Package Labels. *Univ. of Calif. Pub. in Psychol.*, 1919, 3, pp. 72.

The material consisted of twelve brands of canned peaches put up in 2½ lb. tins. The subjects for the experiment were shown the

12 cans bearing their labels and asked to make an arrangement according to preference. The same subjects were also to arrange the contents of the cans, the peaches and juice being placed in saucers, by appearance only, without tasting. In this latter procedure there is marked difference in appearance between the various qualities and the observers unfamiliar with the material could not be deceived, as was not the case with the labels. When the product is graded according to labels the correlation with the actual qualities is .48, showing some relationship between label and contents but much less than in judgment of the fruit itself. The range of position value in the women is a little greater than in the men, the former being more alike or more positive in their selection. There is however high correlation in the results from the two sexes. Attempt is made to analyze certain factors in the judgment namely, familiarity, color scheme, simplicity, richness, appropriateness, pleasingness. The intercorrelations of judgments according to these factors are all quite high. It is suggested that either these incentives are not wholly exhaustive of uncontrolled judgment, or that uncontrolled judgment may rest upon some single incentive. In a third portion of the experiment, price was made the principal factor. The observer was given to understand that he had \$1.20 to spend in purchasing one of the four brands of canned peaches shown him. Each in turn was assigned a value of 30 cents, 20 cents, 15 cents or 10 cents. All possible combinations were presented to the subjects an equal number of times, no subject having more than one arrangement. There appears more demand for a poor brand at 30 and 20 cents than at lower figures, showing that raising the price tends to increase the demand for a very poor brand as well as for other brands. In monetary return the highest price seems to be preferable. There are not quite so many actual sales but the total returns are greater. It is concluded that other conditions being equal more subjects at the time of the experiment will pay 20 cents than 30, 15 or 10 cents; all brands sell better at 20 cents. The familiar brand has more sales at higher prices than an unknown brand that is in fact of superior quality. As price is increased until it becomes exorbitant the number of sales does not decrease in proportion so that returns to a dealer at higher prices are greater than at a moderate price.

MURPHY (Boston Psychopathic)



192. CODY, S., Enlarging the Scope of Mental Measurement. *J. Phil., Psychol., etc.*, 1920, 17, 572-579.

While not a psychologist, the writer sees possibilities for practical measuring devices; general intelligence being a fiction, should not engage the attention of the applied psychologist. Attention is called to tests devised by the writer; results obtained by their use are cited as their recommendation. The Army Tests have their value but we need instead of general, individual mental measurement.

GARTH (Texas)

193. WELLS, W. R., Natural Checks on Human Progress. *Monist*, 1921, 31, 121-132.

Evolutionary optimism in social theory is unscientific in its neglect of the intrinsic limitations of human nature, as well as those due to the environment. Extensive social progress is possible in certain directions, but definite limitations exist, viz: (1) "The failure of civilization to maintain itself through hereditary transmission," necessitating recapitulatory education, (2) The persistence of primitive traits and instincts incapable of complete sublimation into social and moral values, and (3) The indifference of an inanimate impersonal Nature.

DISERENS (Cincinnati)

194. GREGORY, J. C., The Conception of Thought as a Cyclic Process. *Monist*, 1920, 30, 503-520.

The observable cycles of nature suggest that the universe, as a whole, is but one vast cyclic process. This conception itself appears to be of cyclic recurrence, alternating with the theory of irreversible linear evolution which characterizes modern biology. Cyclic recurrence in human thought is seemingly illustrated by certain modern spiritualists, mystic poets and Neo-realists, who have returned in various ways to the old Greek view of the community of nature between thoughts and things. Nevertheless the mental life of individual, group or race rightly impresses us as irreversible, although partial repetitions occur as a result of permanent habits of thought.

DISERENS (Cincinnati)

195. MYERS, G. C., Intelligence of Troops Infected with Hookworm vs. Those not Infected. *Ped. Sem.*, 1920, 27, 211-242.

6,639 troops having hookworm were paired with an equal number of cases with home addresses from the same counties respectively. 612 cases in each group were colored. The groups (of whites) were subdivided into those troops coming from heavy (heavily infected) territory and those from light territory. The intelligence ratings of all were compared in terms of grades A, B, C, etc., in the Alpha, Beta, and Common scales. By comparing the number within each of the groups (all white, white from heavy territory, white from light territory, and colored) falling into each of the letter ratings, it appears that the intelligence of hookworm troops is lower than that of the non-hookworm troops. Comparisons of chronological age and of years of schooling show the hookworm troops to be younger and with less schooling. All these differences are greater for white troops from light territory than for those from heavy territory, and greater for white than for colored. By comparing average scores of successive 10 per cent. steps from highest to lowest in each group, it appears that the lower the intelligence scale, the less the relative inferiority of the hookworm troops. Alternative interpretations of the correlations between mental inferiority, limited schooling, and age, on the one hand, and hookworm infection, on the other, are admitted; but the social menace of the disease remains the same. Critical evaluations are made of the earlier work by Strong, Kelly, Waite, and Kofoid and Pittenger.

DASHIELL (North Carolina)

196. PAYNE, A. F., The Scientific Selection of Men. *Sci. Monthly*, 1920, 11, 544-547.

DASHIELL (North Carolina)

197. SCHIÖTZ, C., The Development of Children Between the Ages of Two and Six Years. *Ped. Sem.*, 1920, 27, 371-397. (Translation of article in *Norsk Magasin for Lægevidenskaben*, May, 1920.)

Data collected on 264 boys and 249 girls, ages 2 to 6½ in Kristiania, yield results on height and weight comparable with other reports. The method of measuring in terms of absolute units is criticized in favor of two others: that of expressing "growth-energy" as a per cent. ratio between increase during a given period and amount originally attained; and that of showing per cent.

ratio of growth during a given year to total amount of growth from newborn to fullgrown. Two expressions of the weight-height relation are suggested, the "space-index" of Rohrer and the "ponderal index" of Livi. Some practical suggestions follow.

DASHIELL (North Carolina)

198. EDMONDSON, M. B., A Mental Survey of First Grade School Pupils. *Ped. Sem.*, 1920, 27, 354-370.

183 first grade pupils of Eugene, Oregon, were given the Stanford Revision examination, with results including the following: distribution of I.Q.'s was normal; variation was apparently as great as at other ages; variation was greater in mental than in chronological age, the former being distributed over seven years; the average I.Q. for girls exceeded that for boys by 3.4 points; retardation was found to be a definite factor even in the first grade.

DASHIELL (North Carolina)

199. AFFLECK, G. B., A Minimum Set of Tentative Physical Standards for Children of School Age. *Ped. Sem.*, 1920, 27, 324-353.

Chronological age as a basis for grading of children should be supplemented not only by mental age but also by physical development. Tables of age norms from many sources are here assembled, showing central tendencies, and in most cases, normal limits of variability. Traits covered are: height, weight, weight-height ratio, teeth eruptions, motor development (tapping), lung capacity, forearm strength, and pubescence.

DASHIELL (North Carolina)

200. BURNHAM, W. H., Metabolism in Childhood. *Ped. Sem.*, 1920, 27, 303-323.

The theory that the greater metabolism in the young is due to the relatively greater skin (heat radiating) surface of the body is rejected. More adequate explanatory factors are: the process of growing; the relatively greater ratio of protoplasm to metaplast; the relatively larger skin surface as involving more numerous blood vessels and muscle fibers; shorter reflex arcs producing more rapid organic reactions; and greater muscle tonus and intensity of motor responses. Additional possible factors are: the amount of surface on internal organs; greater amount of voluntary activity; and greater intensity of emotional responses.

DASHIELL (North Carolina)

201. UHRBROCK, R. S., The Retarded Girl in the Fifth Grade. *Sch. & Soc.*, 1920, 12, 563-564.

This study was made in the General George A. McCall School, Philadelphia. A survey was made of the girls in the 5th grade classes and 36 who were over age for the grade were selected for study. All of the girls were tested by the Stanford Revision of the Binet-Simon Scale, and the Healy Form Board, Knox Cube, Feature Profile, and Manikin were used in some cases. The chronological ages ranged from twelve years and six months to sixteen years, the mental ages ranged from eight years and eight months to fourteen years. The average retardation was three years and eleven months, and the extent of retardation varied from one year and seven months to six years and three months. An individual case is reviewed as an example of the need for psychological examinations which show the differences between the feeble-minded and those malingerers who do not want to work at school though they are perfectly capable of so doing. The writer suggests that before a child is allowed to repeat a grade he should be carefully examined by a social worker and by a psychologist in order to ascertain whether it would not be more profitable to put him at work at some mechanical trade where only simple motor habits are required rather than allowing him to continue in work for which he is not adapted. This would prevent him from drifting from job to job after he left school.

JONES (Radcliffe)

202. YATES, D. H., A Study of Twenty High School Seniors of Superior Intelligence. *J. of Educ. Psychol.*, 1920, 11, 264-274.

The aim of this investigation was to study a group of high school seniors of superior intelligence. The Otis group test (Oakland edition) was given to five hundred and forty-three high school seniors of Oakland, California. The twenty pupils who scored the highest were selected for study. For comparison, another group of twenty, whose score lay at, or next to, the median score, was chosen. School records, teachers' estimate of the pupils' intelligence, were recorded. Visits were made to the homes of the twenty superior seniors where information as to the family and personal history was secured. A questionnaire dealing with their interests was filled out by the forty students. The mental test ratings of the superior group ranged 165-149 (possible score 172). The median for all the seniors was 118. There were 14 boys and



6 girls in the superior group and the girls were noticeably below the boys, both in the small superior group and in the senior class as a whole. The writer thinks this is due to the fact that the girls are more nervous in tests than the boys are. Comparisons were made of the high school marks with the mental test ratings. With 1 counting as highest and 5 as lowest, it was found that 75 per cent. of the superior group had scholarship records at or above 2 while only 50 per cent. of the median group are similarly graded. The home conditions of the superior group were unusually satisfactory; good, sensible, "American" homes. In conclusion, this study tends to show that: (1) Mentally superior high school pupils come from homes where conditions are favorable to right development. (2) They are generally precocious physically as well as mentally. (3) They are not below the average in general health. (4) They have less paid employment outside the home than their fellows, and spend more time in reading. (5) They have more intellectual interests, and seem to be somewhat better leaders and organizers than average young people. (6) Pupils of superior and average intelligence have very similar vocational aims.

JONES (Radcliffe)

203. DOEBLIN, M. I., Recreation versus Delinquency. *Sch. & Soc.*, 1920, 12, 478-487.

As leisure time increases, the problem of pleasure becomes more poignant (*sic*) with possibilities of evil and it is the duty of good citizens to provide proper play activities for the community in order that these evils may be averted and that this extra time may be turned into good channels. "The only real difference between work and play is the spirit in which it is done. In play, the competitive spirit is social; in work, when this spirit enters, it is frequently anti-social. . . . It is in play that a child forms many of his habits, it is through play that he interprets most of his later acquisitions." Social conscience can be more readily awakened through recreational periods than through work. Therefore, it is important that recreation should be provided in a beneficial way. The recreational center should be the community center where children and adults are welcomed at any time and where playgrounds, movies, community plays, and socials are provided by the community. There should be a periodical recreational survey of every community to learn the available facilities for the play of the people and the supplying of those facilities which are lacking.

Recreation must be provided for the whole year by some existing city body, for there is bound to be a recreational center and the city should see that the bad centers are replaced by good centers, led by able and good leaders. The proper supervision of the play activities of children is a distinct aid in preventing delinquency, for it directs their energies into a normal direction. The problem of crime cannot be met by laws. For example, the usual result of the Sunday laws is a special day for carrying out mischief and law-breaking; the play motive is wrongly directed. The way to meet the problem of delinquency is to provide proper facilities for normal recreational activities.

JONES (Radcliffe)

204. LINCOLN, E. A., The Effects of Native Intelligence upon Scores in Standard Tests. *Sch. & Soc.*, 1920, 12, 441-444.

"It is the purpose of this study to present some evidence against a theory which has long prevailed in the field of educational measurement. It has been the practise of those who have reported the results of standard tests given in the course of school surveys to consider, when classes, schools, and school systems have been compared, that no allowance need be made for differences in nature abilities of the pupils taking the tests." The first striking proof of the fact that significant differences do exist in the native intelligence of various communities appeared when mental examinations were used on a large scale in the army. It is quite probable, then, that if such differences exist among adults they will exist among children also. The present study gives the results of a survey in which Intelligence Tests and Standard Tests were given, and it shows how the results of the latter were probably affected by the native abilities of the different classes. These tests were given in a Massachusetts town which is supposed to have an excellent school system. Two groups of classes were considered. The first group was made up of two fifth, three sixth, and four seventh grades in five different schools. The second group was composed of four classes of the eighth grade in the Junior High School, the pupils grouped according to the quality of work they had done in the past. The following Standard Tests were given to both groups: Courtis Arithmetic (Series B), Stone Reasoning Test, Spelling (ten words from the Ayres' Scale), Monroe Silent Reading Test, Dearborn-Westbrook Silent Reading Test. The first group was given the Dearborn General Intelligence Examination, and the second group

was given the Army Alpha Intelligence Test. In the first group a correlation coefficient of .89 was obtained between the standing in the Standard Tests and the standing in the Intelligence Tests. The second group offers better material for the purpose of this study than does the first group, for in the former the four classes of the eighth grade were in the same school and each had the same teacher. Moreover, the tests were given at the end of the year when the pupils had been under the same teachers for three years. Different instruction, programs, and teachers cannot, therefore, account for the differences in the performances of the different classes; these differences must be accounted for on the basis of native ability. Differences in native ability do certainly exist, as the highest median in the Army Alpha Intelligence Test is 65 per cent. greater than the lowest. It seems reasonable to think that these differences affected the scores in the Standard Tests also. Further evidence that there are differences in native ability may be found in the study of the results of the Group Intelligence Tests which have been given in the last two years. They show considerable differences in the mental abilities of pupils of various school systems, schools, and even different rooms in the same school. It is only just to take these differences into account and to make all comparisons with these differences in mind.

JONES (Radcliffe)

205. LUQUET, G. H., Les bonshommes têtards dans le dessin enfantin. *J. de psychol.*, 1920, 17, 683-710.

A discussion of a type of children's drawings of the human figure in which they fail to give any representation of the trunk, the drawings consisting of a representation of the head, legs and arms, the arms, when drawn, being attached either to the head or legs. Most drawings of this type may be explained by the slight importance that the child attaches to the trunk. The child tries to make his drawing as complete as possible, and to include as many details as possible. The details included are those that have the greatest interest to the child—anatomy is ignored. Buttons, ornaments and even the contents of the stomach are drawn before the trunk itself is delineated. The trunk is actually represented to the child either by the head, or by the space included between the legs which are attached directly to the head. The trunk is drawn at a later stage, when the child sees the error of attaching the arms to the head or the legs and must find a convenient place to attach

them. Many references are made to the literature on children's drawings, the literature in French being cited for the most part.

BRIGHAM (Princeton)

206. LUFKIN, H. M., Report of the Use of the Army Alpha Test in Rural Schools. *Sch. & Soc.*, 1921, 13, 27-30.

This is a report of an investigation conducted by the Department of Education of Cornell University in 1919-20, when the Army Alpha Test was given to 564 rural school children, 75 per cent. of whom lived on farms. The tests were given to all grades from the IVth to the fourth year High School. Tables and charts illustrate the records made in grade distributions and age distributions; also comparisons of these records with some obtained in the army, and with the results of Sylvester and Dobbs who covered only the four high school years; and a comparison of the median ages for the different grades with those found by Terman, and those in Rochester, N. Y., and South Dakota surveys. They found a gradual and almost regular increase in scores as they passed up the grades, there being seven times as many D's for Grade IV as for Grade V, and half as many A's for the third year High School as for the fourth. This latter condition does not agree with the results of Sylvester and Dobbs, who found the last two years about equal. This may be due to the fact that here there were many graduate students working with the fourth year pupils. Comparison with the Sylvester and Dobbs results tend to disprove the popular belief that rural pupils are more advanced mentally than pupils in the city. Considered as an Intelligence Test, the Alpha is supported by the age distribution which showed a steady increase in scores from 8 to 18, and above that a drop. The eight year olds, who by their very presence in the Grade IV group, must have been superior pupils, made as good a score as the nine year olds, and those High School pupils, over 18, whose presence there is probably indicative of retardation, showed a falling off in the intelligence rise. As might be expected, because they were more highly selected as regards mental attainment, the school children did better than the army group. The correlation between the chronological age and school grade was very close. It was found that the median ages for the different grades agreed almost exactly with those found by Terman and others.

SCHWESINGER (Radcliffe)



207. DOWNEY, J. E., Rating for Intelligence and for Will-Temperament. *Sch. & Soc.*, 1920, 12, 292-294.

The temperamental volitional traits utilized in the Will Examination are: speed of movement; freedom from load, flexibility, speed of decision, motor impulsion, assurance, resistance to opposition, motor inhibition, interest in detail, coördination of impulses, volitional perseveration, and finality of judgment. Besides the Will-Profile the cases analyzed were given the Thorndike Intelligence Examination for High School Graduates, issued in the fall of 1919. The subjects were classified as follows: Group I, those who might be safely admitted into college in spite of gross deficiencies in preparation; Group II, those able to do good academic work; Group III, those with enough intelligence to attain a college degree if they are earnest and industrious and Group IV, those who are unsuitable material for a college education. In this group the correlation between the intelligence and volitional ratings was plus point 47—much higher than is usually the case with adult groups.

The temperamental type which makes the best showing is the quick-reacting, adjustable type; the slow deliberate pondering mind being at a disadvantage. The mind that works with friction probably does not do itself justice in an intelligence examination, particularly of the group type. And yet this inhibited mind may have a source of originality in this very friction.

Of the students who were given both the Intelligence and Volitional tests, only one in Group I failed to do satisfactory work. He had a high will score, but the pattern was suggestive, showing emotional blocking, inhibitory tendencies and lack of finality of judgment. He is probably the most original student in the group. He is pronounced "brilliant" by some teachers and "slow" by others, but described by all as "erratic." He shows unusual literary ability. Group II gives one case of unsatisfactory work. Not only is the will score low, but the pattern suggests lack of energy, lack of interest in detail, and little perseverance. Group III shows three who are failing, and three who are doing satisfactory work. The failures have a low score, the successes show a plodding, tenacious pattern. Only three students of Group IV are succeeding—all have will scores above the median. Students with high intelligence scores but low will ratings usually succeed academically, but not as well as their intelligence warrants. With certain patterns they fail. Those with low will score, rated in either Group III or IV fail as students. Those with inferior intelligence, but strong volitional qualities may succeed in passing this work.

HINCKS (Radcliffe)

208. WALLIN, J. E. W., A Comparison of Three Methods for Making the Initial Selection of Presumptive Mental Defectives. *Sch. & Soc.*, 1921, 13, 31-45.

In September, 1917, a plan was adopted whereby the responsibility for the initiation of clinic examinations was divided between the schools and the St. Louis psycho-educational clinic instead of being entirely in the hands of the schools. The elementary schools were required to report twice annually the one per cent. of the pupils who were regarded as the most seriously deficient mentally. From these names the director of the clinic selected those who seemed from the facts presented to be most likely candidates for the special schools for mental defectives. To be sure that the selection was the most effective, the Pressey Primer Scale was used in addition to the regular tests. These tests were given to from 19 to 47 children in 13 schools. The principal selected for the tests the children whom they regarded as the most deficient in intelligence (not including any who could do satisfactory third grade work). Three hundred and eighty-two children were given the Pressey group tests. Seventy-seven of those making the lowest score in the four tests were selected for individual examination (physical, mental, developmental, pedagogical, and sociological), the Stanford-Binet being used for the general intelligence rating. Sixty-eight of these and seven others were examined. Before the group tests were given the regular preliminary reports from the schools on the pupils who were regarded by the teachers and principals as most defective intellectually were received and it was noted whether the same pupils were included in both lists. The general conclusions of this work were as follows: (1) "The Pressey Primer Scale is a simple, readily and quickly administered and comparatively cheap measuring scale of so-called general intelligence which gave a correlation of .73 with the Stanford-Binet." The correlation could never be perfect—even if both tests were improved—because the factors which influence the subjects' responses cannot be rigidly controlled. (2) "As an aid in the selection of the pupils who are defective or the most backward mentally, the group test did not prove to be superior to the judgment of the school staff. In fact, it proved somewhat inferior." This is probably due to the fact that the St. Louis teachers are of high intelligence and have had years of experience in referring children to the clinic for examination. The value of the group intelligence tests must not be overestimated. If they "enable us to diagnose, classify and place in-

dividuals somewhat better than we are able to do without them, they will serve a useful purpose, and will be worth the time and trouble involved in using them. But they must always be used with judgment and an appreciation of their inherent limitation." (3) "Group intelligence tests will not take the place of psycho-clinical examinations, for various reasons, among others the following: First, because an adequate picture even of the individual's intellectual peculiarities cannot be obtained from a group intelligence test. To get such a picture from a group intelligence scale would require the use of so many tests as to make the scale too cumbersome." "Second, the results from the group tests are occasionally quite unreliable and misleading." There is often a marked discrepancy between the Pressey score and the diagnosis made as a result of the clinical examination. "What, then, may we hope to get, at best, from standardized group tests or scales of intelligence? We can get (1) fairly accurate measures of central tendencies, (2) measures of variation from such tendencies, (3) measures of correlation between various tests and various determinate factors, and (4) the location or classification of an individual with reference to the measure of central tendency, and of the measure of variability when the tests furnish a basis for such computation." Since, however, the measure of central tendency is largely a mathematical fiction representing no particular individual and no particular type, "the rightness or wrongness of any particular method of instruction depends on its power to satisfy the psychological needs of the individual concerned, rather than the hypothetical average." "Group intelligence tests and results can give us valuable points of reference—average or standard scores, or distribution curves—but after the individual has been properly placed in the scale we must still try to discover the special variations found within his type—i.e., in what respects he is exceptional for his own type—the causes of such variations, and the differential treatment which will meet his particular needs. To ascertain, even imperfectly, such facts as these, requires an analytical or clinical study of each case."

B. J. JONES (Radcliffe)

## 12. MENTAL EVOLUTION

209. BATESON, W. Genetic Segregation. *Amer. Natural.*, 1921, 55, 5-19.

Evidence is found from various forms of plant and animal life that various unit traits may become segregated as individual traits

or as units of complexes. Quantitative differences such as height of plants seldom, if ever, have perfectly simple inheritance. Thus the view that segregable characters are irreducible is still open to question. Certain evidence drawn from plant life indicates that segregation is not exclusively a property of cell "reduction-division" and that it may occur at any division in the life-cycle.

WHEELER (Oregon)

210. WRIGHT, S. & LEWIS, P. A., Factors in the Resistance of Guinea Pigs to Tuberculosis, with Special Regard to Inbreeding and Heredity. *Amer. Natural.*, 1921, 55, 20-51.

BRIDGES, C. B. Gametic and Observed Ratios in *Drosophila*. *Amer. Natural.*, 1921, 55, 52-61.

STOCKARD, C. R. A Probable Explanation of Polyembryony in the Armadillo. *Amer. Natural.*, 1921, 55, 62-68.

The development of the armadillo is interrupted on account of a failure to become promptly implanted on the uterus. Under conditions of arrest the egg presumably tends to form accessory embryonic buds just preceding the formation of the primitive streak. In the deer a similar period of arrest is also found but evidently because of different internal factors a single individual arises from the egg.

WHEELER (Oregon)

211. DUBOIS, R., Recherches expérimentales sur le rôle de la contractilité dans les mécanismes sensoriels chez les mollusques. *J. de psychol.*, 1920, 17, 787-805.

A summary of experimental results on two species of molluscs, *Pholas dactylus* (piddock) and *Helix pomatia* (edible snail). Most of the experiments were performed on *Pholas dactylus*, a marine mollusc having a long siphon, the contractions of which were recorded by means of a thread attached to a Marey tambour. This species has no special organs of vision, the whole superficial layer being sensitive to light stimuli. The author describes, and the curves show two distinct contractions, the first a contraction of the outer (neuro-myo-epithelial) layer of the siphon, this phenomenon causing secondarily the contraction of the muscular segments of the siphon. The first reaction is comparable to the contraction of the rods and cones of the retina, the second to the contraction of the iris.

In the experiments on vision, the *Pholas dactylus* was placed



in a dark chamber which was maintained at a constant temperature. Stimuli were given at intervals of one hour to avoid fatigue. The amplitude and the latent period of the contraction were recorded. The latent period increases to twice its original amount, and the amplitude decreases to 1/10th of its original amount as the intensity of illumination is decreased to 1/100th of its original amount. *Pholas dactylus* reacts characteristically to different portions of the spectrum, the reactions being differentiated not by their amplitude but by their rapidity.

Carrying these results over to human color vision, the intensity of visual sensation comes from the amplitude of the contractions of the rods and cones in the retina, the color sensations from the rapidity of the contraction of these retinal elements. *Pholas dactylus* reacts sluggishly to red and blue and reacts quickly to yellow and green. Complementary colors, or all colors mixed give rise to a median rate of contraction causing the sensation of white. The Young-Helmholtz theory is discarded for this physiological hypothesis which is substantiated by investigations of the action current of the eye, this electric phenomenon accompanying contraction.

Characteristically different contractile phenomena were observed in reactions to bitter, alkaline, acid and salty substances, these substances being introduced directly into the aspirating canal of the siphon. *Helix pomatia* was studied in experiments on smell, actual fibrillary movements being observed under the microscope when volatile substances were introduced into the moist chamber. *Pholas dactylus* did not react to auditory stimuli. The otoliths controlling equilibrium are stimulated by the mechanical displacement of their liquid and solid contents. All sensations in human beings depend on actual internal movements which transform all external stimuli, whether chemical or mechanical, into mechanical excitations. All sensations become a form of touch.

BRIGHAM (Princeton)

## COMMUNICATION

To the Editor:

The Secretary of the American Psychological Association begs to call attention to the fact that the chart showing the geographical distribution of psychologists in proportion to population (PSYCHOL. BULL., 1921, 18, 64), should have been labeled "Psychologists per 10,000,000 Population." Dr. Rich has pointed out that the legend printed is in error.

It has been objected that the average center of psychological population in western Ohio does not properly indicate the most convenient center for the meeting of psychologists for the reason that it is preferable for a large attendance to have two psychologists travel a given distance rather than one psychologist twice as far. As bearing upon the question, the Secretary has computed the median center for the psychological population of 1920 and finds it to be approximately at the geometrical center of the State of Pennsylvania, about fifteen miles southwest of Lockhaven and sixty-seven miles northwest of Harrisburg.

The two centers for 1920 are:

Average center:  $84^{\circ} 15' W$ ,  $40^{\circ} 45' N$  (western Ohio).

Median center:  $77^{\circ} 45' W$ ,  $41^{\circ} N$  (central Pennsylvania).

EDWIN G. BORING

THROUGH a mistake of the printer some defective copies of the Year Book of the American Psychological Association for 1921 have been sent out. These copies lack in general the middle pages, 27-30 or 25-32. The Secretary can immediately replace a limited number of these defective copies if they are returned to him; and the printer promises to make all good that the Secretary can not replace from his reserve. There will be some slight delay in replacement if it is necessary to appeal to the printer.

